

AMERICAN NURSERYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

AUGUST 15, 1956



Prunus Serrulata Kwanzan

SEEDS TREE—SHRUB—PERENNIAL
FLOWER—GRASS—VEGETABLE

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The Nurseryman's Forte: To Make America More Beautiful and Fruitful

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Forms for the September 1 issue will close Friday, August 10.

Forms for the September 15 issue will close Friday, August 31.

Mail copy to arrive at Chicago by these dates—no later!



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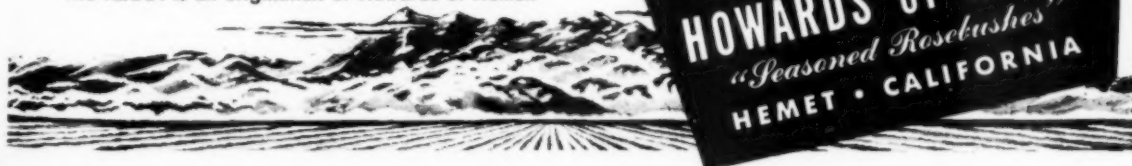


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It's a whopping beauty in the garden—aimin' to be a whopper sales-wise in your nursery. So saddle up, pardner, get your bareroot stock ordered now. If your local grower doesn't have the TEXAN, get in touch with us . . . pronto. If you ain't got 'em . . . you can't sell 'em. Don't wait for a longhorn to kick you. Git along. And don't forget the TEXAN's kissin' cousins, AARS winners Tiffany and Lilibet.

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AMERICAN NURSERYMAN

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Editorial

YEAR-AROUND EMPLOYMENT

Employers in the nursery field, like those in other industries, have come to realize that skilled help can only be secured by permanent employment. Nor is much transient labor to be had, as helpers, that is worth the wages to be paid.

Gradually nurserymen have sought to develop a year-around staff, by mechanization, by vacations in the off season, by scheduling operations over a longer period and even by adding side lines to the business.

The problem has been most difficult for growers, especially in the north, where field operations are confined to a relatively few months. Yet even there, the use of machinery and the thoughtful timing of schedules have made possible a big advance.

In the landscape planting field it has come to be said that year-around activity is possible, by moving big trees in winter, by the use of anti-transpirants on stock in summer and by deferring minor jobs during the necessary spring rush. Tree trimming in winter and maintenance service in summer have been added by some firms to retain employees the year around.

Garden center operators have found the problem relatively easier because they can sell "dry" lines in seasons when nursery stock moves least. They can also add related lines, such as house plants and Christmas greens, even some giftwares, to keep volume up when nursery items sell least. The establishment of self-service, at least partially, has aided in operation with a permanent and experienced staff.

More instances might be cited to indicate the approaches to this problem, but it is evident to every nurseryman that something should be done and can be done, for both his own profit and ease of mind, but also for the further progress and standing of the industry.

The trend toward year-around employment is common to other industries. Indeed, the desire for it has

The Mirror of the Trade

led to union demands for annual wage schemes in the automobile and other fields. It seems to possess an irresistible force, so important that every businessman should keep abreast of developments and give thought to the ways in which he can adapt his own operations to as high a degree of steady employment as possible, with a minimum of short-time workers being hired for special periods or occasions.

INTEREST IN TREES

Announcing a series of articles on trees, a New England newspaper recently published the entries in its cumulative index with reference to trees to show the continued interest in that topic.

In the east, noted for the number and variety of its trees, such interest is the more expected, but in the plains states, with their sparse tree population, there is public interest in the species that may be specially adapted to conditions there.

So much may be told about trees, not only as to their uses, habits of growth and characteristics, but also to historic, legendary and popular aspects, that many books have been written for casual readers, aside from those of a horticultural nature, which are those the nurseryman usually sees.

For the better information of the public, as well as for the stimulation of interest, newspaper editors should be encouraged to publish descriptive articles on trees, especially now when scare stories on tree diseases are more frequent. What is everyday knowledge to the nurseryman is news to most laymen, and it should be easy to provide friendly editors or reporters with material on trees attractive to general readers.

GROWERS' CREDITS

Whether it is due to lack of business acumen or to an inadequate valuation, some growers of nursery stock seem more anxious to move their merchandise than to be paid fully for it. At least, that inference may be drawn from the uncollectible accounts which they incur.

The reason they usually advance for taking such losses is that they do not have easy access to sources of credit information, as do retail merchants in cities. But that is a poor excuse, for many growers manage to keep their credit losses quite low

although they are in similar locations. They do so by asking cash with order or credit references from any prospective purchaser whose standing or reputation is not definitely known to be satisfactory.

"But that means losing some orders," will be said. That, however, is not as bad as shipping stock and not receiving payment for it, or perhaps only partial payment. Indeed, it should be considered that the stock could have been sold to a subsequent buyer who would have paid for it certainly and in full.

Two things should be remembered. One is that a stranger who gives himself a boastful build-up in a letter accompanying an initial order ought to receive due investigation. The other, and very important, is that no substantial firm objects to or resents being asked for credit information, for it is likely a practice followed by the firm itself and expected on the part of others.

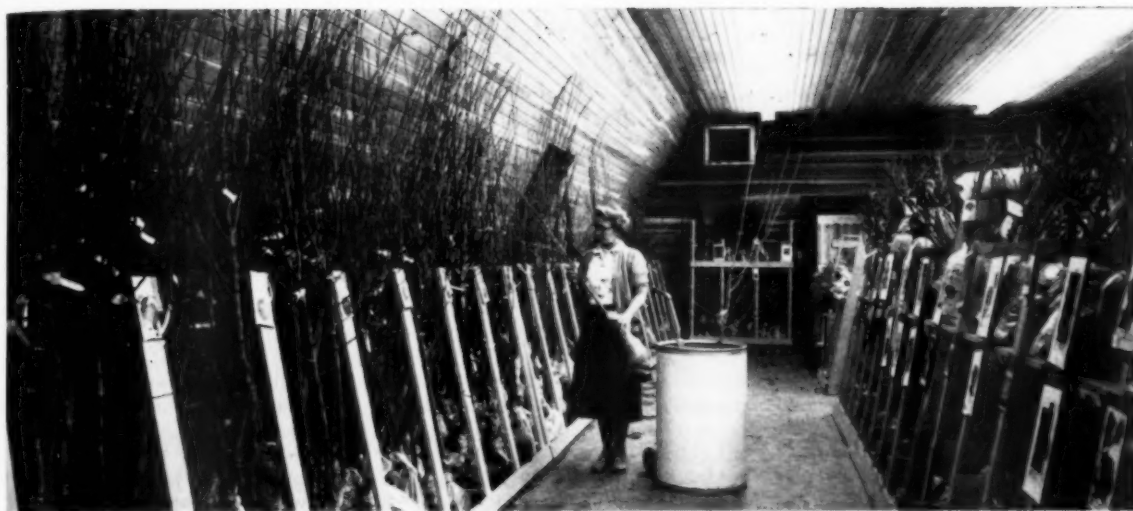
UNFINISHED BUSINESS

The delivery of an item is usually the completion of a transaction in a garden center or salesyard — aside from such effort as is made to induce the customer to return — but the landscape nurseryman usually must do more than set shrubs or trees in the ground. There is pruning or shaping to be done, beds to be finished off and, according to the job, various minor things to be done to make a completed planting, such as the salesman has probably pictured in words, or perhaps a sketch, to the customer.

Such finishing touches mark the difference between the long-established firm and the beginner or the hurried operator anxious to get to the next job. The latter leave behind them a trail of unfinished business, which leaves their customers doubtful if not dissatisfied. Though these operators render their bills promptly, they do not so readily receive payment. When the customer does not complain, he may take out his dissatisfaction in delaying payment. It is ventured that this is one of the prime reasons for the collection problems of some landscape nurserymen, especially in these days of plentiful orders and a desire to book as many as possible.

There is nothing so productive of good will as a follow-up call on each customer when the job is finished.

[Concluded on page 42]



The "thermatorium," lined with finished red cedar, houses movable bins which contain dormant prepackaged stock fully identified, priced and pictured. The can-type cart is used to transport selected stock to the check-out counter.

New "Thermatorium" for Self-Service

"The fastest route to profits is traffic, and the best way to build traffic is to let the nursery customer actually participate in the business," Frank P. Daniels, pioneer Minnesota nurseryman, told a group of businessmen on hand for the opening of his new "thermatorium" in connection with his Nursemart at Long Lake, Minn. Mr. Daniels has conducted his nursery business for the past 43 years. His "grand opening" was for the introduction of new supermarket shopping facilities. Self-service has been facilitated through the addition of a new building which Mr. Daniels calls a "thermatorium." The building, 40x80 feet, is triple-insulated and fully lined with finished red cedar. The construction of the building, plus electronic controls, permits perfect control of temperature and humidity within. The interior can be divided into several sections by movable bins.

The size of each bin varies with the size of the dormant prepacked stock it is to hold. Several hundred items, from 15-foot elms to 2-foot roses (replenished daily from a root cellar) are housed in these bins. Each item is fully identified, priced and pictured at full growth in natural color. The laminated plastic color pictures, Mr. Daniels reports, have proved to be valuable "salesmen."

Shopping Carts Used

The customer can shop the "thermatorium" with a can-type shopping

cart, examining the plants at leisure, making his selections (a highly important advantage) and paying the cashier as he leaves. Trained salespersons are on hand to lend assistance and to answer questions.

The check-out counters and cashiers are located in the garden shop building, reached from the "thermatorium" through a large portal. Adjoining the check-out counters are several displays of impulse purchase items.

When not in use as a salesroom, the bins can be removed and the "thermatorium" can be used for lectures, gardening and landscaping movies

and garden club meetings. One corner of the building houses a complete kitchenette for the preparation of coffee and light lunches (used only for meetings).

The new building is a west wing to the firm's central garden shop building, where seeds, tools, patio furniture and power equipment are sold. To the east of the garden shop is a large lath house, surrounded on three sides by an outdoor selling area for evergreens and other balled or potted items. A large parking area runs the entire length of the nursery and provides space for over 200 cars.

[Concluded on page 81]



View of garden shop building entered from "thermatorium," showing impulse purchase items near check-out counter.

New Jersey Group Hires Plane For Tour to Arnold Arboretum

Flying in a chartered DC-3 airplane, 25 members of the North Jersey Metropolitan Association of Nurserymen journeyed to Boston, Mass., July 2, for a visit to the Arnold Arboretum, at Jamaica Plain. The airplane left Newark, N. J., airport at 8:45 a. m., arriving at Boston at 10:15 o'clock. Five cars reserved in advance took the group to the arboretum, where the nurserymen arrived at 11:15 o'clock.

Dr. Donald Wyman, director of Arnold Arboretum, met the party at the Administration building and spoke to them briefly about the library and the herbarium with its large collection of ornamental plants.

After lunch, the group started a tour of the more than 250 acres, led by Robert Williams, superintendent of grounds, and Roger Coggeshall, propagator. Among the many plants of interest noted were the crossings of mahonia and berberis, known as mahoberberis, and a pink form of *Viburnum tomentosum*. Although there were few plants in flower at the time of the visit, two deserving mention were *Cornus kousa chinensis* and *Stewartia koreana*, both attractive hardy plants neglected by most nurserymen.

The party was fortunate to be shown the hybridizing and dwarfing work on fruits being carried on by Dr. Karl Saks, former director of

the arboretum. Dr. Saks demonstrated his dwarfing of fruits by the bark inversion method and showed the results of work done last year. Also of interest was the use of lanolin as a wound covering to induce rapid healing.

A priceless collection of Japanese dwarfed plants from 30 to 100 years old was viewed with great interest and speculation as to the price a nurseryman would charge for a 200-year-old plant.

Mr. Coggeshall took the group through the propagating area, showing the use of polyethylene plastic for propagation. Seed stratification at controlled temperature and its results was shown to the group, all of whom agreed that research can help solve many of the nurseryman's problems.

At the conclusion of the tour, Robert Williams gave a short history of the arboretum, after which the members expressed thanks for the courtesy extended them by the arboretum officials, stating the hope of returning for another visit in the near future. For the return flight, the party left Boston at 8:15 p. m., arriving at Newark at 10 o'clock. Hans Hess, Mountain View, N. J., was project chairman. Other nursery groups throughout the country may find charter flights such as this offer excellent opportunities to visit with

little loss in traveling time many places that would take too long to reach by other means of transportation. The New Jersey group is already planning another trip for next year.
H. H.

C. A. BOYER HONORED

C. A. Boyer, chief of the plant industry division, Michigan department of agriculture, recently received the superior award for outstanding service of the Capitol chapter of the American Society for Public Administration. The award, in recognition of Mr. Boyer's 32 years of service to the people and state of Michigan, was presented by Governor G. Mennen Williams.

Awards were presented to two state workers, one over 35 years old, one under 35. Mr. Boyer's name will be the first in his age bracket to be inscribed on a bronze plaque to be placed on the state capitol grounds by the A. S. P. A.

Mr. Boyer attended Michigan State University and did graduate work at Texas A. and M. College, College Station, Tex. He has been a member of the central plant board and the national plant board and chairman of the quarantine committee of the latter. He is one of four honorary members of the Michigan Association of Nurserymen. Some of his achievements have been in eradication of insect pests in Michigan, tomato seed certification work and pioneer work in budwood certification of virus diseases of stone fruits and the virus-free strawberry program.



Group of New Jersey Nurserymen who flew by chartered plane from Newark, N. J., to Boston, Mass., to visit the Arnold Arboretum at Jamaica Plain. Standing, left to right, are: Airline representative; William Hallicy; Cornelius Verwey; Eric Johnson; Paul Schirmacher; Richard Hoverman; William Liffers; William Flavelle; Kurt Hoverman; stewardess; Kurt Meyers; Engel Zegers; Robert Mindler, Passaic county agricultural agent; Harold Quazza; Walter Hines, and Joseph Pache; kneeling, left to right, Russel Rodgers; Roy Blair; Charles Wohkittel; Robert Weber; Paul Leutner; Lorenz Frank; Hans Hess, program chairman; Eugene Waidmann; Paul Schirmacher, Jr.; John Morrissy, and James Corradi.

Prices, Costs And Sales Discussed at Arkansas

By L. H. Burton



Newly elected officers of the Arkansas Nurserymen's Association, left to right, L. H. Burton, secretary-treasurer; Donald Pittman, president, and Sam Peace, vice-president.

Arkansas' most successful state-wide nurserymen's convention was held July 23, when 21 nurserymen, representing 12 widely-separated counties, met at the Marion hotel, Little Rock. Present also were two nurserymen from Ottawa, Kan.; John J. Pinney and his son; two from Oklahoma, Leo Conard, Stigler, and H. C. Hunter, Tulsa, and two from Texas, Steve Verhalen, Scottsville, and Bob Breedlove, Tyler. Thirty-four paid registrations were recorded, and several commercial firms were represented.

Everyone expressed pleasure with the program and requested a 2-day meeting next year. Little Rock was voted to be the convention city again for 1957. Several out-of-state firm representatives said that they would be back next year with a nursery display.

Donald Pittman, Pittman Nursery Co., Magnolia, was elected president for the following year. Sam Peace, Peace & Son Nursery, Siloam Springs, retiring president, was named vice-president for 1956 and will continue his active leadership to improve the state-wide association, working with the new president. L. H. Burton, extension horticulturist, University of Arkansas, Fayetteville, was renamed secretary-treasurer. Besides the officers named, the board of directors includes Bob White, Bob White Floral Gardens, Fayetteville, and J. P. Basham, Basham Nursery, Mountainburg.

Thad W. Nicol, manager of the Winrock Grass Farm, Morrilton, had an attractive booth and display of Meyer Z-52 zoysia grass. N. E. Goode, representing the Adkins-Phelps Seed Co., North Little Rock, displayed a fine booth of nurserymen's items.

Registration began at 9 a. m., and shortly after 10 o'clock, Sam Peace

called the meeting to order. J. J. Pinney gave the invocation. After the treasurer's report had been given, L. H. Burton listed a summary of facts concerning the importance of horticultural specialties in Arkansas, using 1954 census of agriculture figures. Some of the facts follow:

From 1949 to 1954 the value of vegetable products sold in the state decreased 29.8 per cent; fruit and nut sales decreased 29.5 per cent. In the same period, horticultural specialty sales, rising to \$1,446,493 in 1954, increased 23.6 per cent.

Value of Specialties

The 1954 reports also showed that in four counties, Pulaski, Jefferson, Clark and Garland, horticultural specialties had a greater value than the combined value of vegetables, fruits and nuts. In seven other counties, the horticultural specialties surpassed in value the combined value of fruit and nuts. These were Boone, Columbia, Craighead, Dallas, Nevada, Saline and Union. Nine counties reported a smaller value of vegetables sold than was reported for horticultural specialties in these same counties. These were Benton, Boone, Craighead, Dallas, Pope, St. Francis, Sebastia, Union and White.

Two of the eight highest-ranked vegetable-growing counties were outranked by the production of horticultural specialties, these being Pulaski, \$632,635 for horticultural specialties to \$89,945 for vegetables, and Benton, \$166,583 for horticultural specialties to \$145,655 for vegetables. Aside from the six other high-

est-ranking vegetable counties, Crawford, Bradley, Logan, Franklin, Woodruff and Mississippi, the total value of horticultural specialties in the other 69 counties of Arkansas surpassed the value of vegetables sold. Horticultural specialties are expected to continue their increase in importance.

Prices and Costs

John J. Pinney, Willis Nursery Co., Ottawa, Kan., presented a discussion of nursery prices and cost relationship. Mr. Pinney, author of "Beginning in the Nursery Business" and many nursery magazine articles, took the entire list of nursery items—labor, skilled workers, management, merchandising, salesmen, overhead and other factors—step by step and compared present costs and prices with those of 10, 20 and 30 years ago. He stressed that the best method of increasing the nurseryman's income is to raise prices in relationship to costs or expenses.

After lunch, Wayne Kincannon, manager of the Little Rock office of the Stauffer Chemical Co., discussed chemical control of weeds, insects and diseases. Fumigants and their control of nematodes were also stressed. Questions were answered regarding methods of application of and results with Vapam.

Carter Seymour, head of the nursery and plant division of the Arkansas state plants board, gave information regarding the board's nursery service. Mr. Seymour discussed recommendations for nurserymen if it becomes necessary to destroy, isolate or treat plants to qualify them for inspection or sale. Preventive measures are frequently used to improve the high quality of stock in this state. Mr. Seymour also explained how a nurseryman's organization can help the

[Continued on page 86]

OPERATING A GARDEN CENTER

Chapter 17 will appear in the
next issue of this magazine.

Tips for Better Landscapes

Some Little-Known Small Trees

By Clarence E. Lewis

Long Island Agricultural and Technical Institute, L. I., N. Y.

It has been said that there is a place for every plant, but some plants are more readily accepted than others. This is true and can easily be confirmed by observing several landscapes, where you will notice that some plants will be used on almost every job and an occasional shrub or tree may be seen on only one of the properties. It is the unusual plant that will attract your attention, either because you have not seen it for a long time or you do not recognize it. Unfortunately, there are plants that are not grown in sufficient quantity and become so-called rarities. Let us look at a few such species and justify their place in the landscape.

The Japanese snowbell (*Styrax japonica*) was introduced into cultivation as long ago as 1862, but still is not recognized by many nurserymen, let alone thousands of home gardeners. It is a small tree of some 25 feet that may reach a height of 30 feet in a few instances. Occasionally it appears as a large shrub of 12 or 15 feet, but in either case the spread is equal to or greater than the height. The spreading or horizontal branching habit is such that the plant appears as an informal tree resembling the flowering dogwood. It is excellent as a small lawn tree, but it will

not grow quickly or make much growth for the first two or three years after transplanting. If it is well planted, the tree soon makes a good recovery. There is a distinct grace to this plant of broad top and short trunk.

Profusion of Flowers

The white, slightly fragrant flowers appear as small bells on the undersides of the branches and sometimes string out along a good portion of the stem. Illustration A indicates the profusion that can be expected from mature trees. Flowering time varies, but usually the flowers make their appearance on Long Island about the last week in May, although this past year it was later by about two weeks. The flowers are not large, as can be judged from the illustration, but there is a dignity to them that any owner can well be proud of. Just before opening they appear as oval, pure white pearls set in greenish-tan cups. The latter may also be observed in the illustration.

This small tree seems to be better off when it is in the company of other plants, particularly if it is protected by larger trees but not close enough to them to be in competition with their root systems. Light shade is preferred to open sunny situations,

and this is doubly true if the snowbell is in a questionably hardy area. It has taken temperatures to zero, but prefers a region of milder nature.

As the common name indicates, it had its origin in Japan but is also listed as being indigenous to China. It is usually found in low, moist areas that have good drainage. In this country it grows best in similar situation but will grow well on a hillside as long as it is not completely exposed.

The bark is rather interesting. It is usually a smooth tan to brown with a fine striped effect that gives one the impression of a netting. Young branches often have a fine threadlike substance that can be easily removed. There is a sort of zigzag effect to the young branches that is more noticeable in the winter when two buds are alternately located at each node. The lower bud is small and the bud over it is long and oval. Both are a fuzzy tan.

The fruit is an ovoid nutlike structure with a small cap on top which is attached to the fruit stalk — not spectacular, but interesting and different.

Good Foliage

The leaves are one and a half to three inches long and a clean dark glossy green that is fitting for most landscapes since the foliage is neither too large nor too small—about the shape of a stubby mock-orange leaf, but a much better green. There is a freshness to the leaves that fully clothe the tree.

It is probably better to grow this tree in a container, since it cannot be dug so easily as others, although when moved with a ball it seems to offer no serious problem.

Its landscape uses are many, including a place in some shrub borders, since its root system does not interfere with those of other plants. As a corner tree it is adaptable to even those homes of one story; and it enjoys the company of such plants as azaleas, mountain laurels, andromedas and hollies. It makes a good addition to a pool area, because its lower branches can be left and allowed to hang over the water, but as has already been mentioned, it may take a few years to do so—un-

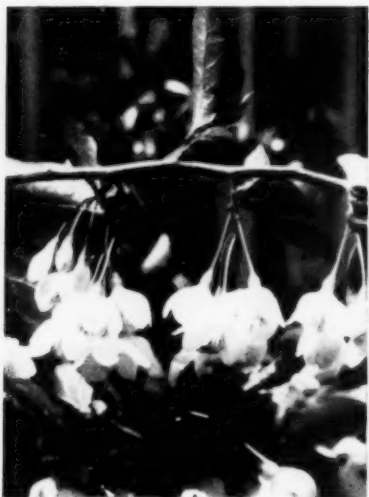


Illustration A — The small bell-like flowers of the Japanese snowbell appear in profusion on the undersides of the branches of mature trees.



Illustration B—The flowers of the fragrant snowbell appear in panicles and make a striking contrast to the large round leaves.



Illustration C—The little epaulette-tree, *Pterostyrax corymbosa*, has flowers that resemble the epaulettes worn by high-ranking naval officers.

less large plants are obtained. This is not a tree for driveway planting, unless at some distance from the drive, because of the drooping effect of the branches. When grown with black haw (*Viburnum prunifolium*) and some of the flowering crab apples it is appealing, particularly so if used with such ones as *Malus zumi*, *calocarpa*, *M. floribunda*, *M. scheideckeri*, *M. Katherine*, *M. Dorothea*, *M. arnoldiana* and others.

There are about 100 species in the warm temperature regions of Asia and Europe, and even a couple from southeastern and southern United States. But of this group there is only one additional tree that is grown and used in any quantity in American gardens. The second, fragrant snowbell, *Styrax obassia* is quite different from the Japanese snowbell and was not introduced into cultivation until nearly 20 years later.

Small Flowers

The flowers come in racemes, as can be seen in illustration B, but each flower is smaller than any shown in the first picture. They are probably not so noticeable, since they are somewhat overshadowed by the large roundish leaves. Sometimes they are partially obscured, but enough flowers show to impress any casual or truly interested spectator. Blooming time is usually in late May or early June—mid-June this year.

This is a rather coarse-appearing tree of some 20 to 30 feet, and the branches have a definite upright habit. The bark flakes or sheds rather easily from young stems to leave them a smooth orange-brown. They are thicker than the new

branches of Japanese snowbell, but have the same angled appearance.

Many leaves of the fragrant snowbell are as long as six to eight inches and their width is almost as much. There is some variance in leaf size on the same tree, as can be seen in illustration B, but the green is softer and lighter than the green of the more popular *Styrax japonica*.

S. obassia combines well with coarse-leaved shrub borders since it grows upward from the surrounding plants and its root system is not competitive. The effect is attractive when it is combined with such shrubs as Korean viburnum, *V. carlesii*; Chinese witch hazel, *Hamamelis mollis*; high-bush cranberry, *V. opulus*, and many others, or it can be used for strong contrast with shrubs whose leaves are much smaller.

Epaulette-Trees

The flowers of some trees are extremely different from most others, and this is true of the fragrant epaulette-tree, *Pterostyrax hispida*, and the only other species of the group, the little epaulette-tree, *Pterostyrax corymbosa*. The flowers pictured in illustration C are those of the little epaulette-tree, which are not so large and long as the other species. About the only other shrub or tree whose flowers bear any resemblance is the white fringe tree *Chionanthus virginicus*. Flowering time is approximately the same as that of the fragrant snowbell. Epaulette is used as a common name because of its similarity to the epaulettes worn by admirals.

Both trees are of Japanese origin, comparatively fast growing, with the fragrant epaulette-tree being the more rapid grower of the two. In some instances basal shoots grow as much as four to six feet in a year. There is a tendency for either plant to make several stems, so that both must be trained into tree forms, which can be easily accomplished, or they may be used as large multiple-stemmed shrubs. *Pterostyrax hispida* can attain a height of 40 feet, but the other rarely grows more than 30. Both are coarse, round-headed trees, with loose growth habits, and can be recommended as quick-growing small trees. But it is well to remember that any tree that grows as speedily as this is often weedy and of brittle wood and must be kept under control by annual pruning. The leaves are oblong on the fragrant epaulette-tree and may become as long as six or seven inches, while the little epaulette tree has leaves that are rounder and seldom, if ever, over four or five inches long. The bark appearance is



Illustration D—The bell like flowers of *Halesia carolina*, Carolina silver bell, usually appear about mid-May on large open shrublike forms.

similar — coarse lined — but the fragrant epaulette-tree has a browner tone to the bark of the young and older branches.

Where to use them is a problem. A homeowner is often looking for a tree that grows only so high and must reach a certain height in a few years. You have heard this many times. Either tree could be the answer, because both produce rather unusual flowers that might favorably influence some people. One never knows. Neither is refined looking, but the little epaulette-tree approaches it, more so than its partner.

[Continued on page 83]



Illustration E—The multiple-stemmed appearance of the Carolina silver bell is typical of the plant. Its striped or lined bark provides an additional landscape feature.



Figure 1—Symptoms of ring spot on large bearing Mazzard cherry.

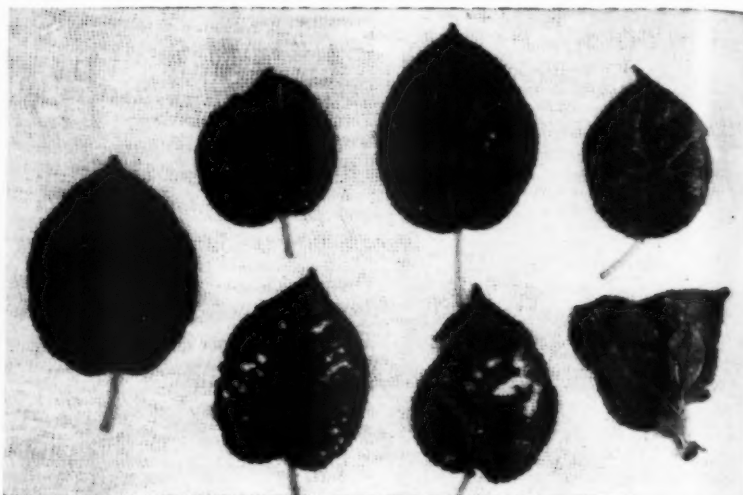


Figure 2—Symptoms of ring spot on bearing Mahaleb tree. The leaf at extreme left is symptomless.

Rootstock Problems

Virus Diseases of Stone Fruits

By K. D. Brase and K. G. Parker

Since the initiation in 1948 of an intensive program on the control of stone fruit virus disease in New York nurseries, emphasis has been placed on selecting varieties for propagation with actual, rather than merely apparent, minimal virus content. The test employed to determine virus content of each variety has been grafting or budding (indexing) on an appropriate series of indicator hosts for each relevant virus or virus complex. A foundation planting is maintained in which the bud source trees are kept under close observation for the appearance of any symptoms of virus diseases. All trees in this planting are indexed annually on at least one of the several index hosts used in the program. At the same time vigilance is maintained for abnormalities not caused by known graft-transmissible viruses that cannot be demonstrated by the usual indexing tests. Nurseries participating in the program renew their budwood annually from the foundation planting.

Such a virus control program is complicated by the composite build-up of fruit trees, namely budding or grafting of varieties to be multiplied on related plants, the rootstocks. Hildebrand (9) observed that Montmorency sour cherry trees propagated from indexed bud sources did not always produce virus-free trees. Widely separated trees in the nursery rows expressed symptoms of the

virus yellows disease. He attributed this to rootstock contamination and was able on indexing such trees on peach to obtain symptoms of ring spot and also symptoms attributed to the cherry yellows virus. Control measures directed only to selection of virus-free variety budwood sources, therefore, do not provide a com-

plete solution of the problem, and work must be directed toward obtaining virus-free rootstocks for propagating purposes.

Evidence accumulated during the past few years reveals a wide distribution of certain viruses in trees from which seeds are collected for seedling rootstock propagation. Cochran (6) first demonstrated experimentally that the ring spot virus may be carried in Mazzard seeds. He planted seeds from a commercial source obtained from stray and pollinator trees in an orchard and observed symptoms of the ring spot type on part of the seedlings produced. When buds from these seedlings were inserted in Hale peach nursery trees, symptoms typical of ring spot were produced on the peach trees. By indexing the cherry seedlings on peach seedlings, Cation (4) demonstrated transmission of ring spot virus in Mahaleb seeds harvested from sprouts of diseased sour cherry trees. Also, he obtained evidence, based on a rosette reaction on the peach seedlings used in the index tests, that the cherry yellows virus is similarly transmitted. In a further study of the same kind (5), from two different seed source trees, 41 and 24 per cent of the seedlings were virus infected, with a two to one ratio of yellows to ring spot reaction on the peach index hosts. From commercial Mahaleb seed sources there was a



Figure 3—Symptoms of crinkle on large bearing Mazzard cherry. Note chlorosis associated with abnormal indentations in margins. Holes in one leaf are not a part of the disease symptoms.

total of 11 per cent diseased seedlings, with a ratio of yellows to ring spot of one to two. From Mazzard seeds harvested from a diseased tree, 56 per cent of the seedlings were infected. In figures 1 and 2, symptoms of the ring spot virus disease as they may appear on Mazzard and Mahaleb trees are illustrated.

Infected Seed Sources

Blodgett and his associates (1) showed by indexing that viruses are carried in seed source trees of both Mahaleb and Mazzard in Washington state, the incidence of viruses being higher in the latter species. In a survey of back-yard and native trees thriving in the Piedmont and mountainous regions of Virginia, a source of commercial Mazzard seeds, the authors found many of the trees virus infected. Symptoms of various ring spot types were observed on part of the trees. The indexing of 95 trees growing in that region showed 67 positive for ring spot on peach index hosts and nine additional probably infected. It was found that isolated trees in pastures were more likely to be virus free than were trees near habitations.

Cochran (7) showed that ring spot virus may be transmitted through peach seeds, which should be taken into account when peach seedlings are used as rootstocks.

Nyland (12) obtained transmission of the ring spot virus through seeds harvested from trees of the Stockton Morello cherry rootstock. Also, he presented evidence of seed transmission from these trees of a virus that causes symptoms resembling those of cherry yellows.

With substantial numbers of infected seedlings produced when

TABLE 1—GROWTH OF DISEASED AND HEALTHY MONTMORENCY CHERRY ON MAHALEB ROOTSTOCKS DIFFERING IN VIRUS CONTENT.

Bud source	Circumference of trunk at 3½ inches above bud union after 1 year's growth, in mm.			
	Healthy rootstock ^a		Diseased rootstock ^b	
	Number of trees	Average circumference	Number of trees	Average circumference
Yellows—1	8	30.0	5	39.0
Yellows—2	7	23.4	3	18.5
Latent ring spot—1	12	45.2	3	40.0
Latent ring spot—2	7	46.4	8	42.0
Recurrent ring spot	8	52.0	7	34.0
Recurrent ring spot plus yellows	7	44.0	3	24.0
Healthy	9	49.0	5	39.5

^a Indexed negative on peach.

^b Indexed positive on peach.

seeds of all these species of cherries used for rootstocks and of peach are taken from infected trees, it is clear that seeds must be taken from trees demonstrated to be virus free if good stock is to be obtained.

Infection Reduces Growth

The use of virus free budwood for propagation does not assure the production of healthy budlings. Abundant evidence has been obtained that when healthy buds are propagated on diseased rootstock, the budlings produced will be affected by the virus in the stock and growth will be reduced. Furthermore, bud take frequently is reduced.

Cation (5) propagated virus-free Montmorency buds on commercial seedlings, and yellows symptoms developed on 20 per cent of the budlings on Mazzard stock and on 1.24 per cent of those on Mahaleb stock.

Millikan and Hibbard (11), in tests in which virus-free Montmorency buds were propagated on virus-free Mahaleb seedlings and on commercial seedlings, observed a substantial reduction in bud take and

in growth of the budlings produced on the commercial seedlings, which presumably were partly virus infected.

The authors propagated several bud sources of Montmorency on commercial Mahaleb seedlings and observed a reduction in growth on the seedlings shown to be diseased. Part of the seedlings were indexed on peach seedlings before they were budded. The data in table 1 indicate better growth, with a single exception, of all bud sources, both healthy and diseased, on the seedlings that indexed virus free in the peach test than on those that were virus infected.

It is significant that the virus-infected buds, as well as the healthy ones, made better growth on the virus-free seedlings than on virus-infected ones. There was one exception, and because of the small number of trees, this might be due to chance. It is probable that most of the diseased seedlings contained the yellows virus, because if a ring spot reaction was obtained on the peach

[Continued on page 70]

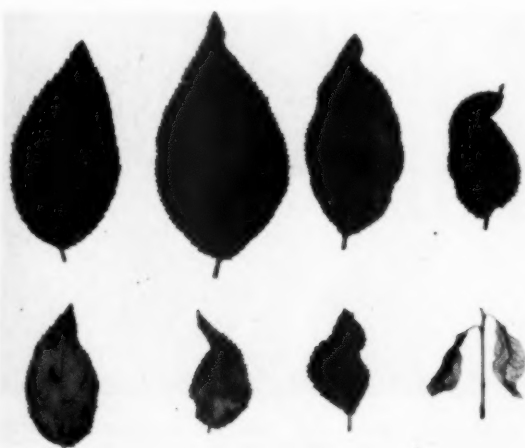


Figure 4—Symptoms of chlorotic fleck on Myrobalan leaves. The leaf at the extreme left in the upper row is symptomless. The chlorotic fleck symptoms seem to be well developed on the young seedling but disappear as the tree grows older.



Figure 5—Myrobalan rootstock with 3-year-old Stanley budlings, showing bud union areas of four trees. Three at left are affected by constriction just below the union. The union shown at extreme right is unaffected, with the union smooth.

At A. A. N. Convention

Landscaping and Mail-Order Panels

Great interest was shown by members in the programs prepared for the four round-table discussions presented July 17 during the A. A. N. convention at Los Angeles, Calif. Reports on two of the panels, those on "Garden Shops and Salesyards" and "Wholesale Production," were given in full in connection with the general convention report in the August 1 issue. Details on the other two panels, "Mail Order" and "Landscaping," which were not fully covered in the previous issue, follow.

Landscaping

The panel on "Landscaping," which drew more than 60 persons to the Los Angeles room, was moderated by Harold Parnham, Robinson & Parnham, Des Moines, Ia. The topics assigned the four panel members on this program were: "Getting the Most from Employees"; "Getting the Most from Customers"; "Getting the Most from Suppliers," and "Getting the Most from Yourself."

Leading the portion on employees was Daniel Gardiner, Boone Gardiner Nurseries, Louisville, Ky., who emphasized the problem of obtaining, training and keeping good employees. Jobs in many other industries and in government offer working conditions and fringe benefits to make them more attractive

than landscape work. There was a difference of opinion in the open floor discussion as to whether fringe benefits, such as group insurance, were really appreciated by most employees. It seems that actual take-home pay is most important to them, and this attitude is increasing in all types of industry. It was the consensus that it was better to offer the fringe benefits and let the employees make the decision as to whether they want them, rather than to create a policy and force it on employees. Gervin Pringle, Florida Nursery & Landscape Co., Leesburg, Fla., advocated more employee-employer meetings, but in a meeting on group insurance, for instance, having insurance experts, not the employer, ex-

[Continued on page 52]

Mail-Order

George Rose, Henry Field Seed & Nursery Co., Shenandoah, Ia., moderated the "Mail-Order" session, in the Sierra room. On the panel with Mr. Rose, to give comment on specific mail-order problems, were Tom Kyle, Bohlender Nurseries Co., Tipp City, O.; Ted Korves, Gurney's, Inc., Yankton, S. D.; Ted Sjulín, Inter-State Nurseries, Hamburg, Ia., and Wayne Ferris, Earl Ferris Nursery, Hampton, Ia.

Mr. Kyle, speaking first on catalog preparation, printing and distribution, emphasized the necessity of a thorough knowledge and understanding of printing mechanics in order to obtain the maximum value for catalog dollars spent. Several valuable pages often can be added to catalogs, he stated, at little increase in printing costs and at the same postage rate if a careful study of press accommodations is made.

He further stressed the element of time in catalog preparation in order to complete the job on schedule. Revision of catalogs should be undertaken every third to fifth year, he stated. "Customers do not seem to approve of annual layout revising, and the costs do not justify the results."

With samples of his firm's stock control file cards available for inspection, Mr. Korves described Gurney's methods in his discussion of "Mail-order Collation and Stock Controls."

"Collation," he stated, "provides sales records and sales trends that may be utilized to plan future operations. The immediate purpose, however, is to insure the quantity of stock sufficient to fill orders and to guarantee delivery on time."

Gurney's gives a stock number to

[Continued on page 34]

PLANNED BOTANICAL GARDEN AND ARBORETUM PROGRAM



Representatives of the American Association of Botanical Gardens and Arboreta who made the arrangements for the group's meeting in connection with the recent convention of the American Association of Nurserymen at Los Angeles, Calif. From left to right, they are: Ray D. Hartman, founder, Saratoga Horticultural Foundation, and president, Leonard Coates Nurseries, Inc., San Jose, Calif.; Paul C. Hutchison, senior botanist, University of California Botanical Garden; John C. Wister, director, Scott Horticultural Foundation, Swarthmore, Pa.; Brian O. Mulligan, director, University of Washington Arboretum; Maunsell Van Rensselaer, director, Saratoga Horticultural Foundation, and president, American Association of Botanical Gardens and Arboreta.

The Theory of Mist Propagation

By Charles E. Hess

Most nurserymen are familiar with the increased percentages and the decreased rooting time obtainable under mist. However, all are not familiar with the reasons why such results can be expected. Therefore, I should like to begin by describing a few of the things which happen to a cutting under mist and then cover the aspects of installing a mist system and, finally, the treatment of cuttings after they are rooted.

The most important problem a propagator faces from the minute he takes a cutting until the first roots appear is to decrease the rate of water loss. Just where does this water loss take place? On the underside of the leaf of most cuttings are thousands of small chambers which open to the surrounding air. It is in these small chambers that carbon dioxide is taken up for use in the manufacture of sugar (photosynthesis) and oxygen is given off as a by-product. But what is important to the propagator is that the cells lining the chambers are coated with a film of water. As this film evaporates it is replaced by water from other parts of the leaf and eventually is supplied by water taken up by the roots. However, when we take a cutting, we leave behind the water supply, and since little water can be absorbed through the base of the stem, the rate of water loss must be decreased.

Water Loss Control

Under double glass this is accomplished by increasing the humidity in the air until nearly as much water goes into the leaf as comes out. However, if the leaf is only 1 degree warmer than air temperature, then there is a net loss; more water vapor passes out of the leaf than passes into the leaf. Mist, on the other hand, not only increases the humidity of the air, but, more important, decreases the leaf temperature so that in many cases there is a net gain of water by the cutting; more water vapor goes into the leaf than passes out. This can be clearly seen when wilted cuttings are placed under mist and in a few hours become fully turgid.

The positive control of water loss under mist permits propagation under full or nearly full sunlight. No

structure is needed to confine the humidity such as is done with double glass. With double glass, heavy shade must be used to keep the air temperature within reasonable limits, but under mist heavy shade is not necessary because the air is not confined and the temperature cannot build up.

Sunlight supplies the energy for the manufacture of sugars. These sugars, in turn, are used in all the functions of the plant, including the formation of roots. Thus, under mist it is possible to take a soft cutting with low food reserves and root it quickly. The same cutting under double glass would die in a few days because the low light intensity and higher temperatures would exhaust what little food was initially present. A final point, which has been indicated but not stressed, is that the cooler leaf temperature under mist reduces the rate at which stored foods are used.

Process Pictured

The important effects of mist are pictured in a diagram (figure 1). Cuttings are represented as storage tanks with two valves; one cutting is under double glass (grafting case), the other under mist. One valve in each tank regulates food manufacture and is controlled by sunlight. The other valve in each tank regulates food use and is controlled by

temperature. Under double glass the valve of food manufacture is nearly closed because of the low light intensity while the valve of food use is wide open because of the high temperature. Thus little reserved foods can accumulate. Under mist the valve of food manufacture is wide open because of the high light intensity but the valve of food use is nearly closed because of the low temperature. Thus reserve foods accumulate in large amounts.

By actual measurement cuttings under mist accumulated seven times more sugars than cuttings under double glass. If we consider the fact that sugars or reserve food are used in the process of root formation, it can be easily seen that a cutting under mist has a much greater rooting potential than a cutting under double glass. Furthermore, after the cuttings rooted under mist are potted, they reroot quicker than cuttings rooted under double glass because of the higher reserve food content.

Fungous Diseases Reduced

An indirect but nevertheless important effect of mist is the reduction of fungous diseases. The cause is attributed to the washing action of the mist, the cooling effect which reduces the temperature below optimum for spore germination, the presence of free water rather than high

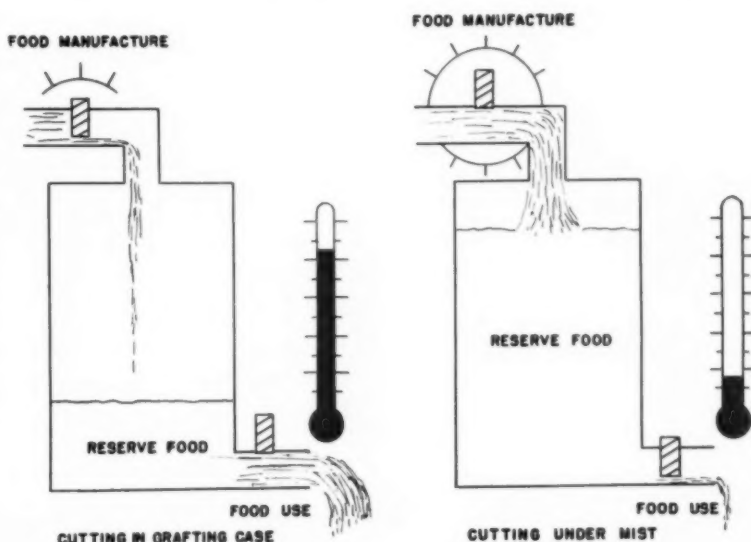


Figure 1—Diagrammatic representation of a cutting under double glass and under mist. Rooting potential is held to be greater as reserve food supply rises.

Talk presented at a meeting of the New England Nurserymen's Association by Charles E. Hess, Cornell University, Ithaca, N. Y.

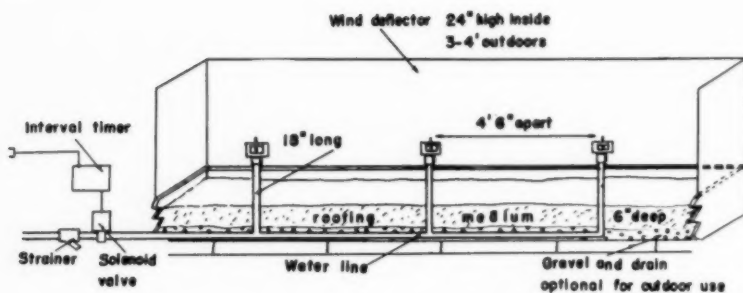


Figure 2—Mist Installation for Indoor or Outdoor Use

humidity which prevents the germination of some fungous spores, the high oxygen content of the mist and the high light intensity. However, there are two instances in which fungous disease may become a problem. One is where a compromise has been made between mist and double-glass propagation. Heavy shade is left on the greenhouse and the ventilators are kept closed. Under these conditions fungous disease is likely to cause trouble. With mist, little or no shade should be used on the greenhouse, and the ventilators should be opened.

The other instance when fungous disease is likely to become a problem is where cuttings with large leaves such as *Magnolia soulangeana* are given too little mist. Just as it is possible to retard rooting under constant mist, it is also possible to run into trouble with too little mist. If just the upper leaves of the cuttings are coated with a film of water and the lower leaves are comparatively dry, then ideal conditions have been created for fungous development on the lower leaves. The problem is increased by the fact that the disease may not be seen until a large area of cuttings has been infected. To overcome this problem, be sure that the mist stays on long enough or comes on frequently enough to insure that all of the leaves, from the top of the cutting to the bottom, are coated with a film of water.

Mist Installation Described

The diagram for a mist installation is shown in figure 2. The in-bench system is recommended because the nozzles are closer to the cuttings, there are no overhead pipes to interfere with sticking and the problem of drip is eliminated. The $\frac{3}{4}$ -inch feed line is placed on the bottom of the bench or on top of the soil in outdoor installation, with a $\frac{3}{4}$ x $\frac{3}{4}$ x $\frac{3}{8}$ -inch reducing tee every four feet four inches to receive the nozzle uprights. A $\frac{3}{4}$ x $\frac{3}{8}$ -inch reducing elbow should be used at the end of the pipe so as to avoid an air pocket. The uprights

are $\frac{3}{8}$ -inch pipe 18 inches long. A $\frac{3}{8}$ -inch coupling is screwed on top of the upright to receive the nozzle which has a male thread.

The nozzle recommended is the Florida, or deflection nozzle, in which a fine stream of water is directed against a pin which breaks the water up into a mist. This nozzle does not clog, because of the large aperture as compared to oil-burner type nozzles, and a screen is placed in each nozzle which filters out any particles larger than the aperture. The spray covers a large area, as can be seen in the diagram. Nozzles are spaced four feet four inches apart in a 5-foot bed. Other features of the Florida nozzle are that it does not drip when installed in the in-bench system and it can be individually turned on and off. Therefore, the entire mist bed does not have to be in operation until filled with cuttings, or the mist can be decreased on those cuttings which root faster, while the full amount is applied to the slower rooting cuttings. Fifty pounds' water pressure is necessary for complete coverage.

Intermittent Mist

In a previous article (American Nurseryman, December 15, 1954) it was demonstrated that cuttings under intermittent mist rooted quicker and with less leaching than cuttings under constant mist. Also, the problem of drainage is greatly decreased with

intermittent mist. The most dependable and trouble-free control system is an interval timer. A timer with a 5-minute cycle is satisfactory. When the cuttings are first stuck, use a cycle of 1 minute on and 4 minutes off. In two or three days this can be decreased to 30 seconds on and 4 $\frac{1}{2}$ minutes off. As the cuttings begin to root, decrease the on period to 15 seconds, with 4 $\frac{3}{4}$ minutes off. Indoors, the mist should be used only during the day, but in outdoor systems it must also be used on hot or windy nights. A solenoid or electric valve is necessary to turn the water on and off in response to the time clock. The most economical size to use is the $\frac{1}{2}$ -inch valve. The valve is placed on the feed line just before it enters the mist bench or wherever it can be protected from the mist. Use two $\frac{3}{4}$ x $\frac{1}{2}$ -inch reducing couplings plus two $\frac{1}{2}$ -inch nipples to install the solenoid valve in the feed line. It is advisable to insert a $\frac{3}{4}$ -inch union near the valve so that it can easily be removed for clearing or repair.

Wind Deflector Needed

A wind deflector or windshield must be placed around all mist beds. It can be easily constructed of plastic film (polyethylene) and 1x2-inch lath. Outdoors the wind deflector should be three to four feet high and indoors 24 to 30 inches above the medium. No shading or cover is needed indoors, but outdoors a light shade is necessary. This is best accomplished by stretching a single layer of cheesecloth over the top of the wind deflector. This will greatly decrease the amount of mist needed, yet not significantly decrease the amount of sunlight the cuttings receive. Most important is that the cheesecloth holds the mist within the bed and completely eliminates the wind problem. The cheesecloth is porous enough so that the temperature will not build up.

The medium used can be selected by the propagator, as good results have been obtained from the extremes of straight sand to pure peat moss. The writer uses as a basic medium a mixture of one part peat to three parts sand for most ornamentals and two parts peat and two parts sand for rhododendrons and similar plants. Excellent results are being obtained with mixtures of Styrofoam and peat moss. In outdoor beds the soil can be used as the medium. It should be prepared as for a seedbed.

After the plumbing is installed, a $\frac{3}{4}$ to 1-inch layer of sand is spread

[Concluded on page 28]

Materials for a Bed 5x21 Feet

- 5 nozzles (\$2 to \$3 each)
- 1 $\frac{1}{2}$ -inch solenoid valve (\$15)
- 1 interval timer (\$20)
- 5 $\frac{3}{8}$ x18-inch pipes
- 4 $\frac{3}{4}$ x $\frac{3}{4}$ x $\frac{3}{8}$ -inch tees
- 1 $\frac{3}{4}$ x $\frac{3}{8}$ -inch elbow
- 4 $\frac{3}{4}$ -inch x 4-foot 4-inch pipes
- 1 $\frac{3}{4}$ -inch x 2-foot 2-inch pipe (from edge of bench to first nozzle)
- 1 $\frac{3}{4}$ -inch union
- 2 $\frac{3}{4}$ x $\frac{1}{2}$ -inch reducers
- 2 $\frac{1}{2}$ -inch close nipples

See text for assembly.

NEW

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Larvacover

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steam soil sterilization



seed bed fumigation



light diffusion and insulation

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Because Larvacovers have high gas retention, thorough fumigation is possible with a minimum use of toxic agents. Fuel can be saved on steam sterilization. A special Florist Green pigment has been added so Larvacovers can also be used effectively for controlled plant shading.

Larvacovers are supplied in both heavy-duty thickness and standard gauge. There is no fire hazard because the material is self-extinguishing. All standard sizes are carried in stock—custom sizes made to order. Ends have 2-inch hem for tear resistance and good grip in handling. Where seamed, Larvacovers are fabricated electronically with a full half-inch flat seam.

The Ultron vinyl film used in Larvacovers is made by the Monsanto Chemical Company, Plastics Division, Springfield 2, Mass. Mail coupon for full information.



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Please send me, without obligation, descriptive literature and prices for new Larvacovers made of Monsanto ULTRON vinyl film. Also name of nearest dealer.

Name _____

Address _____

City _____ Zone _____ State _____

QUALITY EVERGREENS

BROAD-LEAVED EVERGREENS

Abelia Grandiflora
Buxus Harlandi
Buxus Sempervirens
Cotoneaster Francheti
Cotoneaster Horizontalis
Elaeagnus Fruitlandi
Elaeagnus Simoni
Euonymus Coloratus
Euonymus Fortunei Erectus
(small leaf)
Euonymus Patens
Gardenia Fortunei
Ilex Cornuta Burfordi
Ilex Cornuta Femina
Ilex Crenata Convexa
Ilex Crenata Rotundifolia
Ilex Opaca East Palatka
(heavily sheared)
Ilex Vomitoria
(well sheared)
Pride of Houston
Jasminum floridum
Laurel Cherry
(well sheared)
Ligustrum Lucidum
(Black Wax)
Ligustrum Lucidum
(Griffing type)
Ligustrum Lucidum Nanum
Loropetalum Texanum
Magnolia Glauca
Magnolia Grandiflora
Magnolia Soulangeana
Magnolia Soulangeana Nigra
Nandina Domestica
Photinia Serrulata

CONIFERS

Arborvitae, Or. Baker
Arborvitae, Or. Berckmans
(Aurea Nana)
Arborvitae, Or. Blue Cone
(very compact)
Arborvitae, Or. Bonita
Arborvitae, Or. Bonita Golden
Arborvitae, Or. Excelsa
Arborvitae, Or. Fruitland
(Green Berckmans)

CONIFERS, cont.

Arborvitae, Or. Newark
Arborvitae, Occ. Globosa
Arborvitae, Occ. Nigra
(Dark Green)
Arborvitae, Occ. Pyramidalis
Cedrus Deodara
Juniper, Andorra
Juniperus Excelsa Stricta
Juniperus Fastigiata
Juniperus Glauca Hetzi
Juniperus Glauca Hetzi
(staked and sheared)
Juniperus Hibernica
(Irish)
Juniperus Pfitzeriana
Juniperus Pfitzeriana Aurea
Juniperus Pfitzeriana Compacta
Juniperus Sabina
Juniperus Sabina Vonehron
Juniperus Sabina Vonehron
(staked and sheared)
Juniperus Scopulorum
Juniperus Sylvestris
(Chinensis Femina)
Juniperus Virginiana Burki
Juniperus Virginiana Canaerti
Juniperus Virginiana Dundee
Juniperus Virginiana Glauca
Pinus Mughus
Pinus Nigra
(Austrian Pine)
Pinus Sylvestris
(Scotch Pine)

CANNED STOCK

Abelia Grandiflora
Gardenia Fortunei
Gardenia Mystery
Ilex Burfordi
Ilex Convexa
Ilex Helleri
Ilex Rotundifolia
Magnolia Grandiflora
Pyracantha Formosana
(light)
Pyracantha Lalandi
(light)
Crape Myrtle

Price and Quality Guaranteed to Please.

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CARTWRIGHT NURSERIES

COLLIERVILLE, TENN.

Phone 4352

COMING EVENTS

MEETING CALENDAR

August 15, New England Nurserymen's Association, summer meeting, C. R. Burr & Co. nursery, Manchester, Conn.

August 15, Pennsylvania Nurserymen's Association, summer meeting, John Albrecht Nurseries, Narberth, Pa.

August 19 to 21, Southern Nurserymen's Association, annual convention, Andrew Jackson hotel, Nashville, Tenn.

August 19 to 21, Virginia Nurserymen's Association, summer meeting, The Cavalier, Virginia Beach, Va.

August 19 to 22, Texas Association of Nurserymen, annual meeting, Shamrock-Hilton hotel, Houston, Tex.

August 20 to 24, National Shade Tree Conference, Royal York hotel, Toronto, Ont., Canada.

August 22 to 24, Florida Nurserymen and Growers Association, annual short course, University of Florida, Gainesville, Fla.

August 22 to 24, Ohio Nurserymen's Association, summer meeting, Hotel Netherland Hilton, Cincinnati, O.

August 23 and 24, New York State Nurserymen's Association, summer meeting, Hoel Sheraton, Rochester, N. Y.

August 23 to 25, Washington State Nurserymen's Association, summer convention, Davenport hotel, Spokane, Wash.

August 27, Nebraska Association of Nurserymen, summer meeting, Plumfield Nurseries, Fremont, and Marshall Nurseries, Arlington, Neb.

September 10 to 12, Oregon Association of Nurserymen, convention, Gearhart, Ore.

September 12 and 13, Kansas Association of Nurserymen, Willis Nursery Co., Ottawa, Kan.

September 13 to 15, Louisiana State Nurserymen's Association, convention, Blackham Coliseum, Lafayette, La.

September 18 to 20, California Association of Nurserymen, Hoberg's resort, Hobergs, Calif.

September 27, Western Region, Pennsylvania Nurserymen's Association, fall meeting, Hotel Webster Hall, Pittsburgh, Pa.

October 19 to 21, Texas Rose Festival, Tyler, Tex.

October 20 to 22, Florida Nurserymen and Growers Association, annual trade show, Lido Biltmore hotel, Sarasota, Fla.

FLORIDA SHORT COURSE

The program of the second annual nurserymen's and growers' short course to be held at the University of Florida, Gainesville, August 22 to 24, has been announced by E. W. McElwee, head of the department of ornamental horticulture at the university. The first day of the course is to be devoted to discussions of plant

**NOW is the time to order
for Fall Sales!**



POOL CAR SHIPMENTS OF P & D ROSES

We are now booking orders for pool car shipment of these famous Oregon-grown roses for fall delivery to principal eastern and southern points. For latest listings and shipping dates, wire or airmail today.



2 EXTRA SERVICES ... at No Extra Cost

- ① EACH BUSH individually labeled.
- ② EACH BUSH individually top-tied.

Two little extras that mean a lot.

EASTERN NURSEYMEN: Contact our Eastern representative, Frank C. Donovan, 130 E. 23rd Street, Euclid, Ohio

ALL P & D ROSES are budded on a "Super Strain" Multiflora Root. This basic improvement in roses is exclusively ours after 20 years of development. It means bigger, better, hardier roses... less loss in handling... and greater customer satisfaction.



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SPECIAL COLLECTION FOR COUNTER SALES

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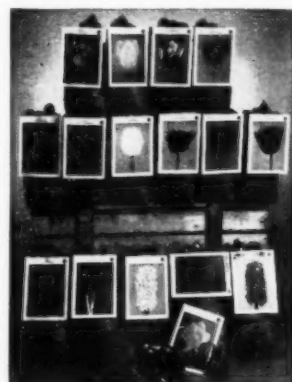
Prepacked in Holland, these **Special Collections for Counter Sales** have proven themselves so popular and our volume in them has increased so greatly that we offer them this year at **NO INCREASE IN PRICE**. Colored pictures of all items, streamers, display cards and planting instructions included free of charge with each collection. No charge for cases, packing, duty or insurance.

Each Collection contains 1650 bulbs, as follows:

1000 TULIPS First Size 11 to 12 Centimeters SUGGESTED RETAIL: 7c each	100 Cordell Hull, red, feathered white. 100 Blue Parrot, heliotrope-blue. 100 Campfire, blood-red. 100 Kansas, pure white.	100 Rocket, double, late, cherry-red. 100 Rhineland, red, edged yellow. 100 Edith Eddy, carmine, edged white.	100 Golden Harvest, clear yellow. 100 Prunus, rose-pink. 100 Queen of Night, deep maroon.
100 HYACINTHS 15 to 16 Centimeters	30 Blue Hyacinths 30 Pink Hyacinths 40 White Hyacinths	SUGGESTED RETAIL: 15c each	
250 CROCUSES—Mixed colors, 7 to 8 centimeters.		RETAIL: 3c each	
250 MUSCARI—Grape Hyacinth, 7 to 8 centimeters.		RETAIL: 2c each	
50 DAFFODILS—King Alfred (yellow trumpet), D.N. No. 2.		RETAIL: 15c each	

TOTAL SUGGESTED RETAIL SELLING PRICE: \$105.00

YOUR COST: \$52.50 per collection (1650 bulbs)



BULK BULBS

Send for your free copy of our complete listing of Holland bulbs. Over 200 varieties available.

TERMS: Net. 25% deposit required from firms unknown to us. Balance payable on delivery. F.O.B. New York or Detroit.

GROWERS EXCHANGE, INC.
P. O. BOX 398, Farmington, Michigan

materials and landscaping, the second day to topics of general interest to nurserymen and growers and the final day to group discussion of specialty crop production problems. The program is as follows:

AUGUST 22

Panel discussion of plant materials for Florida landscapes.

"Ornamental Vines for Florida," by R. D. Dickey, horticulturist, agricultural experiment station, Gainesville.

"Native Plants of Ornamental Use," by Erdman West, botanist, agricultural experiment station.

"Ornamental Plants for North and West Florida," by Henry Martin, superintendent of grounds, Florida State University, Tallahassee.

"Ornamental Plants for Central and South Florida."

"Mallows and Roses for Florida Gardens," by S. E. McFadden, Jr., assistant horticulturist, agricultural experiment station, Gainesville.

Lunch.

Panel on principles and practices of landscaping.

"Lawn Management," by G. C. Nutter, assistant turf technologist, agricultural experiment station, Gainesville.

"Basic Principles and Modern Trends in Landscaping," by J. V. Watkins, department of ornamental horticulture, University of Florida.

"Problems in Landscaping Florida Homes," by Charles R. Wedding, Wedding Nurseries, St. Petersburg, Fla.

"A One-Day Landscape Job."

Evening session: Informal discussion of

American Holly Liners

(Ilex opaca)

Four-year-old liners, grown in 6-in. pots, 18 to 24 ins. All plants started from cuttings. [Guaranteed sex.] We will accept orders now for fall delivery.

Write today for prices.

NATIVE AMERICAN HOLLY FARMS

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Growers of Quality
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R.F.D. 1 HARMONY, PA.

HOLLIES

One of the most complete collections of the better named varieties of American and English holly. 3 to 6-inch pots. Field plants, 2 to 5 ft. Send for list.

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"A friendly, efficient sales service"

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Adams Nursery, Inc.

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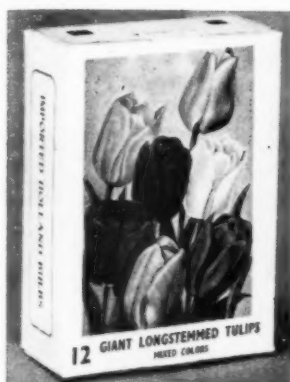
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YOUR COST: \$48.00 (Per Case of 100 Boxes) F.O.B. N. Y. or Detroit.

YOUR SELLING PRICE: 98c ea. (or less if your markup permits).

IMPORTED HOLLAND BULBS PACKAGED FOR COUNTER SALES

Colored Label—Planting Instructions on Each Package.
CONTAINS 100 Boxes, Assorted as Follows:

- | | |
|--|--|
| 60 BOXES TULIP BULBS
FIRST SIZE, 11 to 12 cm.
12 Bulbs Per Box | { Consisting of 15 boxes Rainbow Mixture; 10 boxes each of Pink and Scarlet; 5 boxes each of Black, Lavender, Yellow, White and Parrot Tulips. |
| 12 BOXES DAFFODIL BULBS
DOUBLE NOSE No. 3
6 Bulbs Per Box | { Consisting of 3 boxes each of Yellow Trumpet Daffodils and Red Cup Daffodils and 6 boxes of mixed Daffodils. |
| 17 BOXES HYACINTH BULBS
14 to 15-cm. size.
6 Bulbs Per Box | { Consisting of 7 boxes Rainbow Mixture and 2 boxes each of Yellow, Pink, White, Blue and Scarlet. |
| 11 BOXES "HERALDS OF SPRING" BULBS | { 4 boxes Crocus, mixed (25 per box).
4 boxes Grape Hyacinths (25 per box).
3 boxes Wood Hyacinths (12 per box). |



"HERALDS OF SPRING"—Early-Flowering Dutch Bulbs

Colored Label—Planting Instruction on Each Package

All bulbs are genuine imported Holland stock, guaranteed blooming size and **packed 50 of a variety per bag.**

The eye-catching pictures, simple planting instructions and extremely low price make these space-saving packages a fast-moving, highly profitable line to handle.

Collection contains 3000 bulbs (250 each of 12 varieties), assorted as follows:

- | | | |
|---|--------------------------|----------------------------|
| 250 Spring-Flowering Crocus, | 250 Chionodoxa luciliae, | 250 Oxalis deppei, |
| 250 Fall-Flowering Crocus, | 250 Allium moly, | 250 Galanthus, |
| 250 Dutch Iris, | 250 Anemone de Caen, | 250 Scilla campanulata and |
| 250 Muscari armeniacum, | 250 Ranunculus, | 250 Scilla sibirica. |
| PRICE: \$30.00 per collection (3000 bulbs). | | (All 50 per bag.) |

HARDY LILY COLLECTIONS—HOLLAND-GROWN

Especially early-dug stock, rushed from Holland, for **October delivery!** Each variety separately labeled. Colored picture of each variety included in case.

COLLECTION No. 1

- 250 bulbs—8 to 9 inches
50 L. Regale
50 L. Regale Album
50 L. Speciosum Rubrum
50 L. Orange Triumph
50 L. Tigrinum Splendens

PRICE:
\$40.00 per collection



COLLECTION No. 2

- 400 bulbs, 6 to 7 inches
80 L. Regale
80 L. Regale Album
80 L. Speciosum Rubrum
80 L. Orange Triumph
80 L. Tigrinum Splendens

PRICE:
\$40.00 per collection

TERMS: Net Cash. Early orders F.O.B. New York or Detroit.

GROWERS EXCHANGE, Inc.

P. O. BOX 308
FARMINGTON, MICH.

POTTED LINERS

	Per 100	Per 1000
<i>Taxus baccata repandens</i> , 1-yr., 2 1/4-in. rose pot, 3 to 5 ins.	\$25.00	\$230.00
<i>Taxus cuspidata</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<i>Taxus cuspidata</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins.	24.00	220.00
<i>Taxus cuspidata capitata</i> , seedling-grown, 3-yr., 2 1/4-in. rose pot, 3 to 6 ins.	22.50	200.00
<i>Taxus cuspidata capitata</i> , seedling-grown, 3-yr., 2 1/4-in. rose pot, 4 to 8 ins.	27.50	250.00
<i>Taxus cuspidata Vermeulen</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	20.00	180.00
<i>Taxus intermedia</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<i>Taxus intermedia</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins.	24.00	220.00
<i>Taxus media Adams</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<i>Taxus media Adams</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins.	24.00	220.00
<i>Taxus media browni</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	20.00	180.00
<i>Taxus media browni</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins.	25.00	230.00
<i>Taxus media hatfieldi</i> , No. 18, 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	20.00	180.00
<i>Taxus media hatfieldi</i> , No. 18, 2-yr., 2 1/4-in. rose pot, 5 to 12 ins.	25.00	230.00
<i>Taxus media hicksi</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<i>Taxus media hicksi</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins.	24.00	220.00
<i>Taxus media Moon's</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<i>Taxus media Moon's</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins.	24.00	220.00
<i>Taxus media thayerae</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<i>Taxus media thayerae</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins.	24.00	220.00
<i>Taxus media wardi</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	22.50	200.00
<i>Taxus media wardi</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins.	27.50	250.00
<i>Taxus media wellesleyana</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<hr/>		
<i>Juniperus Andorra compacta</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	20.00	180.00
<i>Juniperus chinensis pfitzeriana</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	25.00	225.00
<i>Juniperus chinensis pfitzeriana glauca</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	27.50	250.00
<i>Juniperus glauca hetzi</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	20.00	180.00
<i>Juniperus glauca hetzi</i> , 2-yr., 2 1/4-in. rose pot, 5 to 12 ins.	27.50	250.00
<i>Juniperus Irish fastigiata</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	20.00	180.00
<hr/>		
<i>Thuja Douglas Golden</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	20.00	180.00
<i>Thuja occidentalis elegantissima</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	20.00	180.00
<i>Thuja occidentalis Globe</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	20.00	180.00
<i>Thuja occidentalis pyramidalis</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<i>Thuja occidentalis Siberian</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	180.00
<i>Thuja occidentalis woodwardi</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<hr/>		
<i>Ilex convexa bullata</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	20.00	180.00
<i>Ilex convexa bullata</i> , 2-yr., 2 1/4-in. rose pot, 4 to 8 ins.	25.00	240.00
<i>Ilex crenata hetzi</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<i>Ilex crenata hetzi</i> , 2-yr., 2 1/4-in. rose pot, 6 to 12 ins.	22.00	200.00
<i>Ilex crenata rotundifolia</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00
<i>Ilex crenata rotundifolia</i> , 2-yr., 2 1/4-in. rose pot, 4 to 8 ins.	22.00	200.00
<i>Ilex crenata Stokes Pat. 887</i> , 2-yr., 2 1/4-in. rose pot, 2 to 4 ins.	35.00	300.00
<i>Ilex glabra</i> , 1-yr., 2 1/4-in. rose pot, 4 to 6 ins.	18.00	170.00

<i>Taxus capitata</i> , seedling-grown, 2-yr., 2 to 3 ins.	\$ 6.00	\$50.00
<i>Taxus capitata</i> , seedling-grown, 2-yr., 3 to 6 ins.	10.00	90.00

The above only a partial list of our potted lining-out stock.

We also grow seedlings and field liners. A complete catalog on request.

HEASLEY'S NURSERIES

247 Freeport Rd.

BUTLER, PA.

day's topics, with panel speakers of the day.

AUGUST 23

"Control of Insects and Mites (illustrated)," by James E. Brogdon, entomologist, agricultural extension service, Gainesville.

"Insecticides and Plant Injury," by S. H. Kerr, assistant entomologist, agricultural experiment station, Gainesville.

"Propagation of Ornamental Plants," by J. V. Watkins.

"Fertilizer Practices for Ornamental Plants," by E. W. McElwee.

Lunch.

"Controlling Weeds in Ornamental Plantings."

"Plant Diseases and Their Control," by Donald Coe, associate plant pathologist, agricultural extension service, Gainesville, and others.

"Nematodes Attacking Ornamental Plants," by Walter H. Thames, Jr., nematology fellow, soils department, Gainesville.

Dutch supper and informal discussion.

AUGUST 24

Visiting demonstrations—Archer Road Greenhouses.

Group discussion of production problems, with insect, disease and ornamental horticultural specialists rotating between groups to answer questions and discuss problems.

Group 1: Foliage plants — Leader, James Voster, Vosters Nurseries, Inc., Miami, Fla.

Group 2: Nursery stock.

Group 3: Orchids — Leader, Jean Merkel, Alberts & Merkel Bros., Inc., Jacksonville, Fla.

Group 4: Cut flowers and potted plants.

WASHINGTON CONVENTION

The program for the summer convention of the Washington State Nurserymen's Association, to be held August 23 to 25 at the Davenport hotel, Spokane, Wash., has been announced by John B. Strander, Seattle. A meeting of chapter 28 of the American Association of Nurserymen will be held in conjunction with the convention.

August 23, after the morning business session, R. O. Cornelius, Weyerhaeuser Timber Co., will give a talk on the phytophthora disease problem. A panel composed of representatives from each area of the state will discuss winter damage in Washington.

After lunch the A. A. N. chapter meeting will take place. Clyde Stocking, A. A. N. president, and Richard P. White, executive vice-president, will give reports. The association's annual banquet will be held that evening.

August 24, the group will spend the day at Coeur d'Alene, Ida., going there from Spokane by bus. Plans include noon dinner and evening smorgasbord at Coeur d'Alene lodge, swimming and a boat trip around the lake in the afternoon.

The schedule on August 25 in-



You just know they're ARMSTRONG ROSES

Properly packaged for profits



SELL GARDEN MAGIC packaged roses for profitable self-service sales. The bloom, in full color, is pictured on the front of each eye-catching green and gold package, with planting instructions on the back. Canes clearly show through the transparent wrap. Customers can see just what they are buying . . . pick 'em out, pick 'em up and pay the man fast!

Field-Fresh ARMSTRONG Plants—Fast starting, top qual-

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Reduced Handling Costs — No pruning, no tagging, no heeling in, no wrapping. And far less selling time.

The best roses, in the best packages, make an ideal combination for profitable sales. Write for our wholesale list TODAY.

ARMSTRONG NURSERIES

ONTARIO, CALIFORNIA

PEONIES

Standard 3 to 5-eye divisions from young plants not over three years old. We do not cut any flowers from our fields, so you can depend upon receiving strong healthy plants. Numbers in parentheses following flower name denote ratings of the American Peony Society on the basis of 10 as perfect.

*Especially desirable for cut flowers.

	Per 10	Per 100
*Albert Crousse, (8.6). Pink, tinted salmon; late.....	\$ 4.00	\$ 35.00
*Baroness Schroeder, (9.0). Flesh-pink to white; midseason.....	5.00	45.00
*Duchesse de Nemours, (8.1). Sulphur-white to pure white; mid-season.....	4.50	40.00
*Edulis Superba, (7.6). Clear, deep pink; very early.....	3.50	30.00
*Felix Crousse, (8.4). Bright, rosy-red; late midseason.....	4.50	40.00
*Festiva Maxima, (9.3). Double, white, flecked crimson; early....	4.50	40.00
*Fontenelle, Large, dark red; midseason.....	4.50	40.00
Frances Willard, (9.1). Blush-white; late midseason.....	5.00	45.00
Inspecteur Lavergne, (8.5). Crimson, frilled center petals; early....	5.00	45.00
*Karl Rosenfield, (8.8). Velvety crimson; midseason.....	5.00	45.00
Lady Alexandra Duff, (9.1). Blush-pink; midseason.....	4.50	40.00
*La Perle, (8.5). Pink to creamy-white; midseason.....	4.50	40.00
La Tulipe, (7.5). Flesh-pink; midseason.....	3.50	30.00
Le Cygne, (9.9). Large, pure white; early.....	11.00	100.00
*Mme. de Verneville, (7.9). White, flecked crimson; early.....	4.00	35.00
Mme. Emile Galle, (8.5). Light rose-pink; late.....	5.50	50.00
Mme. Jules Dessert, (9.4). Creamy-white; late midseason.....	6.50	60.00
*Martha Bulloch, (9.1). Old rose-pink; late.....	8.00	75.00
*Mary Brand, (8.7). Dark crimson; midseason.....	5.50	50.00
Mikado, (8.6). Japanese type, crimson; midseason.....	6.00	55.00
*Mons. Jules Elie, (9.2). Light rose-pink; early.....	5.00	45.00
Mons. Martin Cahuzac, (8.8). Maroon-crimson; early midseason..	9.50	90.00
Myrtle Gentry, (9.1). Light pink; late midseason.....	8.50	80.00
Philippe Rivoire, (9.2). Dark crimson; early.....	9.50	90.00
Reine Hortense, (8.7). Rose-pink; midseason.....	3.50	30.00
*Sarah Bernhardt, (9.0). Light rose-pink; late.....	4.50	40.00
Walter Faxon, (9.3). Vivid shell-pink; midseason.....	5.50	50.00

PACKAGED PEONIES

For cash-and-carry, self-serve and counter sales. Smaller plants, of course, than the standard 3 to 5-eye divisions listed above, but a good value.

Put up in attractive packages, lined with laminated waterproof paper; waterproof cellophane tops. Large four-color illustration and complete planting instructions on each package. Approximate shipping weight, 1 lb. per package (Retail for 85c to \$1.00)....40c
Your choice of:

EDULIS SUPERBA, old rose-pink
FELIX CROUSSE, brilliant crimson
FESTIVA MAXIMA, large, early white
KARL ROSENFELD, bright crimson
MONS. JULES ELIE, light rose-pink

Minimum shipment 50 packages in multiples of 10 of a variety. Shipments begin Sept. 15.

THE WILLIS NURSERY CO.

"Your Wholesale Nurserymen"
OTTAWA, KAN.



cludes the election of new officers at the business session and talks by Leland C. Strait, coordinator of short courses, Washington State College, Pullman; Washington state attorney general, Don Eastvold, and George Eade, horticultural inspector for the state. After lunch at the hotel, there will be a tour of Duncan Gardens and Arboretum.

LAKE COUNTY ELECTION

At the business meeting of the Lake County Nurserymen's Association held at Thompson Ledges, O., in connection with the association's annual summer field trip, Gerard C. Klyn, Mentor, was elected president. William Demeter, Mentor, was elected vice-president.

The 120 nurserymen making the field trip visited the Michael Sebian Nursery, near Painesville, where they inspected the propagating greenhouse, lath house and irrigation and tile drainage systems. From there, the group traveled by bus to the Lester Square Nursery, Perry, to see the storage building, an old barn converted for modern storage. Dr. Donald Comin, Ohio agricultural experiment station, Wooster, discussed conversion of old buildings for storage and described proper use of insulation and methods of moisture control.

The Paul Otto Nursery, Perry, was then visited. Use of electrical power to obtain water from a pond for irrigation was demonstrated at the nursery, where lining-out stock is a specialty.

In addition to Dr. Comin, F. G. Haskins, Lake county agricultural extension agent, and Dr. L. C. Chadwick and James Caldwell, both of the horticulture department of the Ohio State University, Columbus, accompanied the nurserymen on the field trip, contributing to the lectures. A chicken barbecue provided by the Lake county poultry committee at the Thompson Township park ended the day's events.

MRS. ANNABELLE GRIMES, sales manager of Waynesboro Nurseries, Inc., Waynesboro, Va., was recently named president-elect of the Dale Carnegie Clubs International.

HAROLD E. MOSHER, who has been associated with the University of Missouri, Columbia, as assistant professor of horticulture, will spend a year's leave of absence from that university to complete his graduate work at the University of Massachusetts, Amherst, after which he hopes to return to Missouri.



D. Hill Nursery Company

prevents fall weeds

with **CRAG Herbicide-1**
Trade-Mark

Both sides of this field of Austrian pines at D. Hill Nursery Company, Dundee, Illinois, were treated with CRAG Herbicide-1 on September 20, 1954—the center was left untreated. This photograph, taken May 6, 1955, shows how the weeds are choking the plants in the untreated center section, while the sides are clear of weeds.

You can prevent chickweed and other winter annuals, too, by using CRAG Herbicide-1 through late fall. It makes your spring weeding easier and saves you money. And it's easy to use.

Get CRAG Herbicide-1 from your dealer now, and start your own weed prevention program. You'll be pleased with the results!



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COVER ILLUSTRATION

Prunus Serrulata Kwanzan

If many nurserymen or landscape men could select but one variety of the Oriental cherries, they would choose the Kwanzan cherry, *Prunus serrulata* Kwanzan. It was also known at one time as the Kanzan Sekiyama, or Sekizan, cherry. There are many reasons for the popularity of this small tree, whose maximum landscape height is 10 to 15 and occasionally 18 feet.

The flowering display is one of the most profuse and colorful of any of the small flowering trees. The double, deep pink nodding flowers of about 30 petals appear in clusters of three to four and measure about two to two and a half inches in diameter. The first flowers of 1955 opened at Farmingdale, Long Island, N. Y., about April 29, showed their greatest profusion May 3 and their flower value was lost May 10. So, the tree is not long in flower, but what a show when it does bloom! The color is constant and does not fade, as it does in some varieties.

It is one of the hardiest of the Oriental cherries, and when growing conditions are favorable long shoots develop, suggesting that a summer pruning job may be desirable in order to remove the overgrown appearance, or the longer branches may be removed during late winter pruning.

The habit is semiupright so that it forms a broad V and consequently can be planted near walks or roads, but not too near the latter. It makes a good tree for plantings where people may walk beneath it and observe its pendant flowers.

The foliage is colorful, particularly in the spring, when the new leaves open to show a coppery to reddish color. The leaves are on the coarse side, as are the young branches, with distinct sharp-toothed margins.

The best known display of the Kwanzan variety is probably along the tidal basin in Washington, D. C., where there are about 200 trees. The Brooklyn Botanic Garden and some local New York parks also have fine displays of this and other Oriental cherries.

The one doubt that may arise regarding this variety, or others, is that its main trunk bark is subject to frost injury, and sometimes serious splitting occurs whereby the bark, and even sapwood, separates from the heartwood section of the tree;

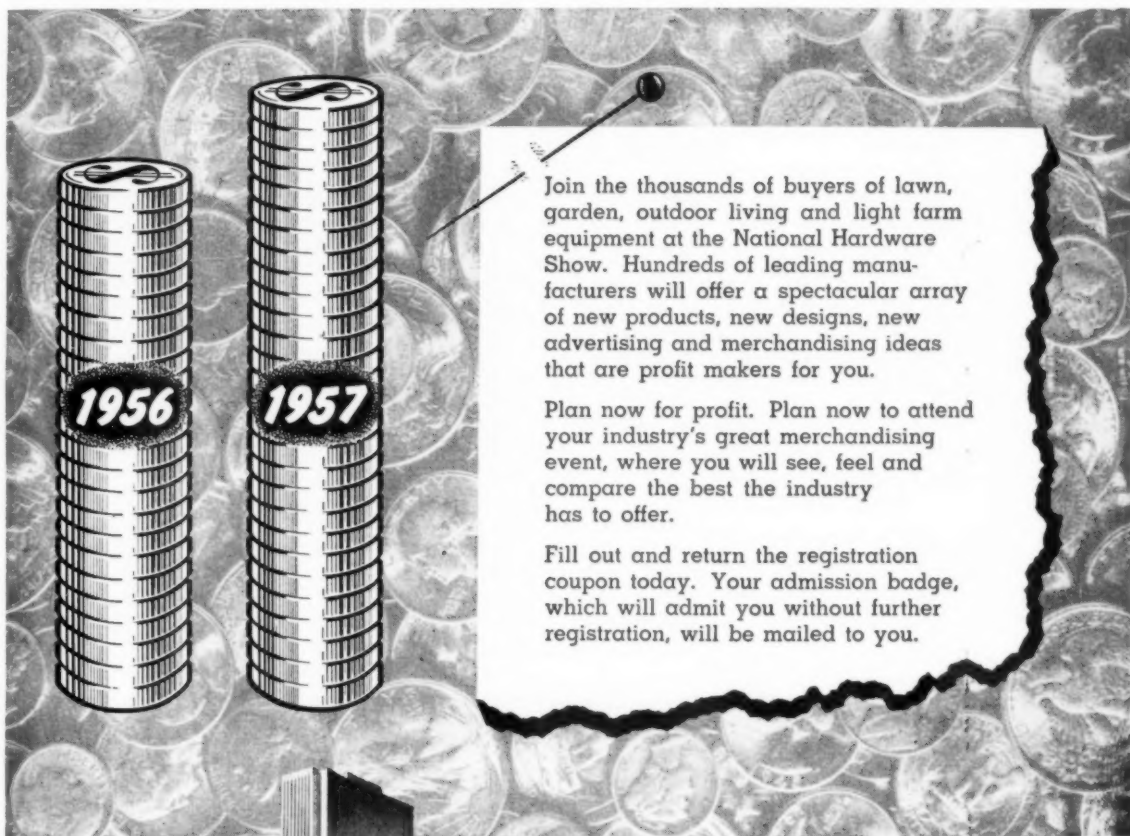
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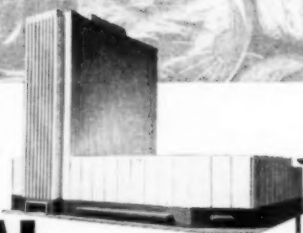


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Prices Bare-Root — 50 or more, one kind,
one size, less 10%.

	5 to 6 ft.	6 to 8 ft.	8 to 10 ft.	10 to 12 ft.
<i>Acer rubrum</i> (Scarlet Maple)	\$2.00	\$2.75	\$4.00	\$6.00
<i>Acer saccharum</i> (Sugar Maple)	2.00	3.25	4.50	8.25
<i>Gleditsia triacanthos inermis</i> (Thornless Honey Locust)	2.00	3.00	4.50	7.50
<i>Platanus occidentalis</i> (American Plane Tree)	1.50	2.00	3.50	5.00
<i>Quercus phellos</i> (Willow Oak)	2.25	3.50	5.50	...
<i>Ulmus americana</i> (American Elm)	1.50	2.00	3.00	4.50

FLOWERING TREES

B. R. and B&B

	3 to 4 ft.	4 to 5 ft.	5 to 6 ft.	6 to 8 ft.
<i>Cercis canadensis</i> (American Redbud) B. R. ....	...	...	\$2.00	\$ 3.50
B&B .....	...	...	3.50	7.50
<i>Cornus florida</i> (White Dogwood) B. R.	\$2.25	\$3.00	...	...
B&B	3.00	4.00	7.50	12.50
<i>Cornus florida rubra</i> (Pink Dogwood) B. R.	3.00	...	...	...
B&B	4.50	6.25	8.75	...
<i>Crataegus cordata</i> (Washington Thorn) B. R. ....	...	...	...	...
B&B .....	...	...	10.00	12.50
<i>Malus Almey</i> B. R.	2 to 3 ft. \$0.75	3 to 4 ft. \$1.00	4 to 5 ft. \$1.50	5 to 6 ft. ...
B&B	1.75	3.50	\$4.50	...
<i>Malus eleyi</i> B. R. ....	.75	1.00	1.50	...
B&B	1.75	3.50	4.50	...
<i>Malus floribunda</i> B. R. ....	.75	1.00	1.50	...
B&B	1.75	3.50	4.50	...
<i>Malus Hopa</i> B. R. ....	.75	1.00	1.50	...
B&B	1.75	3.50	4.50	...
<i>Malus niedzwetzkyana</i> B. R. ....	.75	1.00	1.50	...
B&B	1.75	3.50	4.50	...
<i>Malus parkmani</i> B. R.75	1.00	1.50	...
B&B	1.75	3.50	4.50	...
<i>Malus scheideckeri</i> B. R.75	1.00	1.50	...
B&B	1.75	3.50	4.50	...



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this is not a common occurrence, but it does happen. Anyway, it is a good small flowering tree and worthy of being planted in many small or large landscape situations.

MIST PROPAGATION THEORY

[Concluded from page 16]

over the soil. The cuttings are stuck with the base of the cutting at the soil-sand level or just into the soil. As the cuttings root, the roots grow directly into soil. This method should be used early in the propagating season so that the cuttings can become well established before overwintering. The medium can be spread throughout the bed, placed in flats so that individual lots of cuttings can be handled independently or placed in bands so that the cuttings do not have to be disturbed for potting.

Hardening Process

As the cuttings begin to root they should be gradually hardened off by decreasing the amount of mist applied. However, this is usually not possible because of different rates of rooting. If this is the case, the cuttings can be potted and either returned to a mist bench until rerooting begins or be given moderate shade and syringing. Both the shading and syringing are decreased over a 5 to 7-day period or until normal watering keeps the rooted cuttings turgid. Then the cuttings are placed in cold-frames for the balance of the growing season and are covered with sash during the first winter.

If the cuttings are not taken until late in the season and there is not sufficient time to allow good rerooting, the cuttings may be taken directly from the mist bench, placed bare root in plastic bags and held in a refrigerator or freezer at 38 degrees Fahrenheit. The cuttings may be stored this way until spring, when they are planted out in beds.

The best results, however, are obtained when the cuttings are taken early and in a soft condition. The wood is more active and will root quicker and in higher percentages. Also, the rooted cuttings will have a longer period to become established and will even grow and harden off before the overwintering period.

DONALD B. LACEY, formerly associate agricultural agent, Westchester county, N. Y., has been appointed as a specialist in home gardening to the staff of the extension service, college of agriculture, Rutgers University, New Brunswick, N. J.

Rosedale Nurseries switch to THILCO NURSERY WRAPS

and gain *These Important Advantages—*



Better Root Protection!

Thilco POLY-KRAFT duplicates nature by permitting the roots to "breathe" and live as in the ground. It allows the passage of gases or air in or out, yet, moisture is retained within the package so that plants will not dry out.

Quality of Appearance!

Plants and shrubs wrapped in Thilco Nursery Wraps make a neat and most attractive package. There is far less bulk and the creped texture of the wrapper permits stretch for close molding or forming to plant or shrub.

Trade Mark Identification!

Thilco Nursery Wraps whether in sheets, rolls or bags can be furnished print-decorated with your nursery name, trademark or any other message. It costs only a fraction of a cent more per unit than plain, ordinary wraps. Print Decorating adds positive identification, a quality appearance, merchandising value, eye-appealing attraction and greatly increased nursery prestige.

Decided Savings in Shipping Costs!

Thilco Nursery Wraps reduce the need for any root overwrapping with bulky and heavy wet sphagnum moss, wood shavings or peat moss to supply moisture. Result: A much lighter package that greatly reduces shipping and postage costs. One nursery saved over \$22,000.00 in postage alone the first year they switched to Thilco wraps.

Read what Howard C. Taylor, Pres. of Rosedale Nurseries has to say about THILCO Nursery Wraps

Rosedale
ROSEDALE NURSERIES, INC.
SAW MILL RIVER PARKWAY • EASTVIEW, NEW YORK

June 25, 1956

Broadway Paper Company
New York City 51, New York
Gentlemen:

When we first switched to Thilco wraps we used a plain 30/30/30 crinkled duplex paper. This gave us the protection we wanted and also provided the lightness of weight we were looking for to help reduce our shipping and postage costs. We soon learned from your representative, however, that we were "missing the boat" by not taking advantage of the advertising space these wrappers could provide.

Consequently, on our next order for Thilco Nursery Wraps we changed to a green colored paper printed with our name which gives a "quality appearance" to all our packages. This trademarking provides the low cost advertising, positive identification and prestige element we were looking for and affords us excellent continuity in conjunction with our catalog and other advertising mediums.

We are very pleased with our new, distinctive THILCO WRAPS and recommend them highly to other quality nurseries.

Sincerely,

Howard C. Taylor
HOWARD C. TAYLOR
President



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Varied Topics at Maryland Meeting

By Harry William Dengler

Nearly 100 members, families and guests of the Maryland Nurserymen's Association held one of the most pleasant and profitable summer meetings in the association's history, June 24 to 26, at Harrison Hall, Ocean City. Fellowship, fun and good eating were highlights of the meeting. Raymond Bunting, Gene Bunting, Jack Raynor and Homer Kemp, with G. Hale Harrison as chairman, made up the planning committee. Nurseryman Harrison, with his wife, owns and operates Harrison Hall, one of Ocean City's most modern hotels.

Sunday, June 24, was devoted to registration, sun and surf bathing, relaxation and visiting. This feature of providing an occasion for a well-deserved rest, after a busy spring season, and affording the family an opportunity for a brief vacation proved popular.

Nursery Visit

Monday morning the group visited the Tingle Nursery Co., Pittsville. Owner Leamon Tingle conducted the nurserymen on a tour of the greenhouse, propagating frames and lining-out beds. Of special interest were the irrigation system and Mr. Tingle's large assortment of azaleas, hollies, boxwoods and related plants.

After the morning's tour, everyone returned to Harrison Hall for a clambake that was an outstanding event.

Association president, Carville Akehurst, Akehurst Nurseries, Fullerton, presided at an informal business meeting Monday evening. Carl Orndorf, J. H. Small & Sons, Chevy Chase, and Washington, D. C., chairman of the membership committee, read a list of 17 members admitted to the Maryland association since the last meeting at Baltimore, in January, and those present were introduced.

Mr. Akehurst then introduced Dr. Ernest N. Cory, retiring state entomologist and head of the entomology department, University of Maryland, whom the nurserymen honored with an association life membership at a testimonial dinner at the university, May 24, as reported previously.

Dr. Cory discussed the problems evolved in the control of insects in Maryland nurseries. For the past two years, he said, a graduate assistant at the university has worked on

insect pests of euonymus, azalea, holly and box. Dr. Cory said that there would be available soon the complete life history of a small midge which infests the berries of American holly and prevents them from properly coloring. The insect apparently is associated with a fungus, and which of the two is responsible for the lack of berry color has not yet been determined. The answer, however, is being worked out. Dr. Cory cited this example as one of the values of having graduate and research assistants. He suggested that the nurserymen's association form a committee to look after its interests and to see that adequate attention be given to nursery insect problems and their control.

Harry William Dengler, extension

forester, Maryland extension service, College Park, announced that for the seventh consecutive year, Land week will again be observed in Maryland, September 9 to 15. The purpose of Land week, he stated, is to encourage the use of good soil, water, forest and wildlife conservation practice by all who cultivate the soil. Mr. Dengler urged that as many nurserymen as possible take part in the observance of Land week, pointing out that the underlying principles of the "Plant America" program correspond closely to the philosophy embodied in the Land week objectives.

Nurseryman G. Hale Harrison introduced Mr. and Mrs. H. G. Dekens, J. Blaauw Co., Red Bank, N. J., affiliated with the nurseries of

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Order your hardy azaleas now for fall or spring delivery from the finest collection we have ever offered to the trade. Try ours once and see the difference.

GABLE AZALEAS

- Louise Gable**, double, pink
6 ins., **75c**; 8 ins., **\$1.00**; 10 ins., **\$1.25**; 12 ins., **\$1.50**.
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6 ins., **75c**; 8 ins., **\$1.00**; 10 ins., **\$1.25**; 12 ins., **\$1.50**;
15 ins., **\$2.50**; 18 ins., **\$3.50**.
- Rose Greely**, white
6 ins., **75c**; 8 ins., **\$1.00**; 10 ins., **\$1.25**; 12 ins., **\$1.50**;
15 ins., **\$2.50**.

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- Carmen**, large, rose-colored
6 ins., **50c**; 8 ins., **75c**; 10 ins., **\$1.00**; 12 ins., **\$1.25**;
15 ins., **\$2.00**.
- Fedora**, large, pink
6 ins., **50c**; 8 ins., **75c**; 10 ins., **\$1.00**; 12 ins., **\$1.25**;
15 ins., **\$2.00**; 18 ins., **\$2.50**; 20 ins., **\$3.50**;
24 ins., **\$5.00**; 30 ins., **\$6.00**.
- Louise**, red
6 ins., **50c**; 8 ins., **75c**; 10 ins., **\$1.00**; 12 ins., **\$1.25**;
15 ins., **\$2.00**.
- Othello**, brick-red
6 ins., **50c**; 8 ins., **75c**; 10 ins., **\$1.00**; 12 ins., **\$1.25**;
15 ins., **\$2.00**; 18 ins., **\$2.50**; 20 ins., **\$3.50**;
24 ins., **\$5.00**; 30 ins., **\$6.00**.
- Salmon Beauty**, salmon-pink
6 ins., **50c**; 8 ins., **75c**; 10 ins., **\$1.00**; 12 ins., **\$1.25**;
15 ins., **\$2.00**; 18 ins., **\$2.50**; 20 ins., **\$3.50**;
24 ins., **\$5.00**; 30 ins., **\$6.00**; 36 ins., **\$7.50**.

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- Addy Wery**, deep vermilion-red
6 ins., **75c**; 8 ins., **\$1.00**; 10 ins., **\$1.25**; 12 ins., **\$1.50**;
15 ins., **\$2.50**.
- Amoena**, purple-red
6 ins., **50c**; 8 ins., **75c**; 10 ins., **\$1.00**; 12 ins., **\$1.25**;
15 ins., **\$2.00**.
- Apple Blossom**, pink
15 ins., **\$2.50**; 18 ins., **\$3.50**.

KURUME AZALEAS—Continued

- Coral Bells**, pink
6 ins., **50c**; 8 ins., **75c**; 10 ins., **\$1.00**; 12 ins., **\$1.25**;
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15 ins., **\$2.00**.
- Johann Strauss**, single, rose blotched
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15 ins., **\$2.00**.
- Hexe**, double, red, late
12 ins., **\$2.00**; 15 ins., **\$2.50**; 18 ins., **\$3.50**.
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6 ins., **50c**; 8 ins., **75c**; 10 ins., **\$1.00**; 12 ins., **\$1.25**;
15 ins., **\$2.00**; 18 ins., **\$2.50**; 20 ins., **\$3.50**;
24 ins., **\$5.00**.
- Macrantha**, salmon, late
12 ins., **\$1.50**; 15 ins., **\$2.50**.
- Mollis**, pink, yellow, orange
12 ins., **\$1.75**; 15 ins., **\$2.00**; 30 ins., **\$7.50**.

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	Per 100	Per 1000		Per 100	Per 1000
● SPECIAL STRAIN SCOTCH PINE					
Very best Christmas tree strain. Grown from seed collected by our own men from selected parent trees. Exceptionally healthy, sturdy, straight-stemmed specimens, with rich color.					
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4-yr., S., 5 to 10 ins.	10.00	50.00			
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Special strain of our own collection.					
2-yr., S., 5 to 10 ins.	7.00	35.00			
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Excellent understock.					
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Taxus cuspidata capitata—side cuttings					
1-yr., T., 4 to 6 ins.	\$25.00	\$175.00			
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1-yr., T., 4 to 6 ins.	25.00	175.00			
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1-yr., T., 4 to 6 ins.	25.00	175.00			
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1-yr., T., 4 to 6 ins.	25.00	175.00			
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● JUNIPER HETZI GLAUCA					
1-yr., T., 6 to 8 ins.	25.00	250.00			
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1-yr., T., 5 to 7 ins.	30.00	250.00			
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● PYRAMIDAL ARBORVITAE—Compacta					
1-yr., T., 5 to 7 ins.	25.00	200.00			
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Ilex rotundifolia					
1-yr., T., 4 to 6 ins.	20.00	175.00			
2-yr., T., 8 to 12 ins.	30.00	250.00			
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1-yr., T., 4 to 6 ins.	20.00	175.00			
● RHODODENDRON					
From hybrid seeds.					
2-yr., T., 8 to 12 ins.	\$1.25 each				
● WHITE DOGWOOD					
2-yr., S., 12 to 20 ins.	15.00	75.00			
3-yr., T., 16 to 24 ins.	25.00	125.00			

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MUSSEY FORESTS

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INDIANA, PENNA.

J. Blaauw Co., Boskoop, the Netherlands. Mr. Dekens expressed his pleasure at being present with the Maryland nurserymen and answered questions from the floor regarding nursery operations in the Netherlands.

Street Tree Problems

Irvin Baur, Baltimore Gas & Electric Co., Baltimore, Md., explained his company's increasing problems in connection with trees growing under utility lines, saying that it is costing the utility company now more than a million dollars a year in line clearance alone. The city of Baltimore, he stated, is trying to select better trees for residential plantings and is not concerned so much with using smaller trees in general, but rather in areas where utility lines currently exist. Mr. Baur said that the company has a tree committee investigating this situation. He asked the cooperation of the Maryland Nurserymen's Association in formulating ideas and suggestions for desirable trees and for the preparation of a booklet suggesting the best trees suitable for planting or for replacements.

In the discussion that followed, Mr. Baur said that underground lines would raise rates 30 times over a 10-year period. The cost of installing special aerial cable, where the line fell to the ground without breaking or power interruption in the event of falling trees, would be prohibitive. Mr. Baur stated that in many areas, of course, the utility lines are now being placed at the rear of houses, but this does not take care of street lighting.

President Akehurst agreed that this was a problem with which the nurserymen should concern themselves and offered the group's assistance to the Baltimore Gas & Electric Co.

Truck Licenses

Carl Orndorf reviewed the Maryland nurserymen's truck license tag status for the benefit of the newer members. In a specially arranged test case in Montgomery county, he said, a precedent had been established. As a result, all nursery trucks are considered farm trucks and are entitled to the benefits thereof. President Akehurst ended the meeting with the announcement that the association's annual winter meeting would be held in Baltimore in January, 1957.

The entire morning of July 26 was devoted to an informal beach party, fishing and sight-seeing. In the afternoon the group visited Harrison's



and the job's done when you use

STAUFFER-VAPAM

the new one-application temporary soil sterilant

Fast and easy, that's Vapam...and economical, too! Just water the soil, introduce Vapam into your irrigation system and soak it in. No special equipment and no ground coverings needed. In 2 or 3 weeks Vapam dissipates and you can plant in *clean* soil, which will deliver its full quota of nourishment to the plants that pay you a profit.

For maximum economy, individual rows can be sterilized.

STAUFFER-VAPAM will do these things for you:

CONTROL WEEDS AND WEED SEEDS. Weed populations have been virtually eliminated in all phases of nursery operation.

CONTROL SOIL-BORNE DISEASES. Such damp-off fungi as *Rhizoctonia* and *Pythium* in chrysanthemums and most other commercial cut flowers are easily controlled by Vapam. Also neck and root rots on Gladiolas and column stock.

CONTROL NEMATODES. Vapam has proved its ability to control a wide range of nematode species, both endoparasitic and ectoparasitic forms.

Join the growing group of Nurserymen who are reporting substantial dollar gains as a result of Vapam programs. Save time, extra labor for weeding and grow better, healthier plants. Phone your local distributor now, or write



Let the Stauffer Service Man prove how Vapam can benefit you! He's at your call, day or night.



STAUFFER CHEMICAL COMPANY

Agricultural Chemicals Division

380 Madison Avenue, New York 17, N. Y.

TAMPA • OMAHA • HOUSTON

San Francisco • Los Angeles • Weslaco • Lubbock
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HARDY AZALEAS

can be planted now. All of these varieties have survived 19 degrees in our nursery without any damage. 25 at 100 rate.

Azalea amoena. Very hardy, evergreen foliage, which turns a rich bronze in winter. Semidouble purple flowers. 4 to 6 ins. \$15.00 per 100

Azalea japonica. Very hardy, wide range of colors, red, yellow, pink, etc. Deciduous. 6 to 8 ins., T. \$25.00 per 100

Azalea kaempferi (Torch Azalea). Japanese seed. Tall-growing, large red flowers in profusion, blooms when evergreen types fall. Deciduous. 4 to 6 ins., T. \$15.00 per 100

Azalea kurume. Gives a great variety of colors and types, from choice whites to orchids, deepest pinks and reds. 2-yr., T., 4 to 8 ins. \$15.00 per 100

Azalea poukhanensis. Large orchid flowers, which rarely winterkill. Deciduous. 4 to 6 ins., T. \$15.00 per 100

6 to 8 ins., T. 25.00 per 100

Each plant carries a nice ball of soil.

ILEX CRENATA CONVEXA

(Ilex Bullata)

Owing to our unusual success in propagating this desirable item, we offer it at a very low price. Over 150,000 in stock. It is a very choice, very hardy, low-growing evergreen, with shiny, dark green, convex, boxwood-like leaves. Grows fast into money, up to 2 feet, and there slows down. Ultimate size 3 feet high and 4 feet wide. Easier to grow than Yews and can be used in sun or shade. Sells on sight. Grows very dense and contrasts well with other evergreens. Makes the perfect, low hedge.

Each
6 to 8 ins., 2-yr., T. 15c
8 to 10 ins., 2-yr., T. 20c

PIERIS JAPONICA

Each
4 to 6 ins., T. 15c
6 to 8 ins., T. 20c

SEND FOR LIST OF
UNUSUAL PLANTS

ALANWOLD NURSERY

NESHAMINY, Bucks Co., PA.

A General Line of FRUIT and ORNAMENTAL TREES and PLANTS

BUNTINGS' NURSERIES, Inc.
BOX 3 SELBYVILLE, DEL.

NORTHERN COLLECTED EVERGREENS FERNS

PLANTS SHRUBS
WILLIAM CROSBY HORSFORD
CHARLOTTE, VT.

BOULEVARD NURSERIES

Newport, R. I.

- Quality Nursery Stock
- Lining-Out Stock
- Root-Thru Plant Pots

Nurseries, Berlin, Md. Occupying 4,000 acres of nursery, orchard, farm and forest land, Harrison's was started 72 years ago and is the oldest nursery in business on the Del-Mar-Va peninsula. The summer meeting ended with a visit to Buntings' Nurseries, Inc., Selbyville, Del. Here, Raymond and Gene Bunting conducted the tour through the nurseries, lath houses and greenhouses and one shipping shed. Buntings' Nurseries, Inc., occupies 1,500 acres, with about half the land in Maryland and half in Delaware.

MAIL ORDER PANEL

[Continued from page 14]

each salable item and a card is maintained on the items indicating both the stock on hand and the sales. Each week the records are brought up to date, permitting a close stock control check. Furthermore, the card allows a 4-year record to be shown that has proved invaluable in evaluating sales trends. Mr. Korves said that the collation keeps Gurney's never more than one week behind with accurate sales records.

Storage and Packaging

Mechanical refrigeration and polyethylene plastics have revolutionized the storage and shipping of perennials in the methods employed by Inter-State Nurseries, according to Ted Sjulín. The firm now digs perennials in the fall instead of spring, packs and stores them dry under refrigeration of 26 degrees until the storage area is full, then increases the temperature to just below freezing for the balance of the storage period. In preparation for spring shipping the plants are thawed out over a 2-day period and placed in polyethylene bags that are closed if plants are still dormant. If growth has begun, only the roots are wrapped.

The savings effected in postage and packing materials by use of the polyethylene bags more than offsets the higher costs of the plastic materials, Mr. Sjulín stated. Furthermore, the plant losses have been reduced from nearly 50 per cent to almost nil with the winter refrigeration and shipping methods, he concluded.

Similar methods are being employed by the Earl Ferris Nursery to handle roses, deciduous stock and field-grown material, according to Wayne Ferris. He exhibited a sample of kraft paper treated with half-mil polyethylene that his firm utilizes in wrapping deciduous stock for mailing. Roses, for example, are

ORNAMENTAL EVERGREENS

Trees and Shrubs

BAGATELLE NURSERY

P. O. Huntington Station, N. Y.

LINING-OUT STOCK

IN WIDE ASSORTMENT

Hardy Azaleas, Pink Dogwood, Jap. Red Maples, Old English Boxwood, Lilacs (French Hyb.), Evergreens, etc., in 1, 2 and 3-yr. transplants, at competitive prices. Write for list.

DEERFIELD NURSERIES

DEERFIELD STREET P. O., N. J.

LINING-OUT STOCK

HESS' NURSERIES

MOUNTAIN VIEW, N. J.

PIKES PEAK NURSERIES

Division of
Clearfield Bituminous Coal Corp.
INDIANA, INDIANA CO., PA.
Grower of Quality Nursery Stock
Current Trade List on Request

SHEPARD NURSERIES

Growers and Distributors of
ORNAMENTAL NURSERY STOCK
Truckloads only, no boxing.
60 acres growing. Skaneateles, N. Y.

LILACS ON OWN ROOTS

Leading varieties. All sizes, 2 to 8 ft.
Write for list. Inspection invited.

SAMUEL FRASER NURSERY

Box 158
GENESEO, N. Y.

GROWERS

EVERGREEN TREE LINING-OUT STOCK

Write for free price list.

SUNCREST EVERGREEN NURSERIES

P. O. Box 305 HOMER CITY, PA.

QUALITY NURSERY-GROWN SEEDLINGS

All our seedlings are grown in open beds, with proper irrigation and fertilization. They have good caliper for height. They are shipped fresh-dug or stored under the best modern storage facilities. You will be well pleased with the "catch" you get with our seedlings.



Careful Grading Assures Uniformity of Plants



30 Acres of Seedbeds at the Beginning of the Growing Season



Packing Out the Finished Product

	Each	Each 100 rate	Each 1000 rate
ACER GINNALA , Best dwarf Maple. "The scarlet foliage in autumn is as brilliant as any of the maples. A good tree for specimen or screening purposes, requiring no care."—Dr. Wyman			
6 to 12 ins.	3c	2½¢	
12 to 18 ins.	5c	4c	
18 to 24 ins.	8c	6c	

ACER PLATANOIDES (Norway Maple)			
1 to 6 ins.	5c	3c	
6 to 9 ins.	6c	4c	

ACER SACCHARINUM (dasycarpum) (Silver Maple)			
6 to 12 ins.	2c	1½¢	
12 to 18 ins.	3c	2½¢	
18 to 24 ins.	4c	3½¢	

ALNUS CORDATA (Italian Alder). Considered hardiest of the alders. A hardy tree from Corsica. Dense, glossy foliage. Grows to 45 ft. and thrives on wet soils where many trees will not grow.			
1-yr., 6 ins. and up	9c	6c	

CELASTRUS ORBICULATA (Oriental Bittersweet)			
4 to 6 ins.	2½¢	2c	
6 to 10 ins.	5c	4c	
10 to 15 ins.	8c	6c	

CRATAEGUS CORDATA (Phacopyrum) (Washington Hawthorn)			
1-yr., 6 ins. and up	9c	7c	

CRATAEGUS CRUSGALLI (Cuckspur Thorn)			
6 to 9 ins.	7c	6c	
9 to 12 ins.	10c	9c	

CYTISUS SCOPARIUS (Scotch Broom)			
6 ins. and up	9c	6c	

ELAEAGNUS ANGUSTIFOLIA (Russian Olive)			
6 to 12 ins.	2½¢	2c	
12 to 18 ins.	3½¢	3c	
18 to 24 ins.	7c	5c	

FRAXINUS ORNUS (Flowering Ash). Rare and choice. Highly favored shade tree in Europe. Confined in growth. Fragrant panicles of white flowers 3 to 5 ins. long in mid-May. Luxuriant foliage. One of the better new trees.			
6 to 10 ins.	6c	5c	

JUNIPERUS VIRGINIANA . We have long produced our red cedar from Minnesota-gathered seed because of high blight resistance of this type. Definitely superior to midwestern types.			
1 to 6 ins.	4c	3½¢	
6 to 8 ins.	5c	5c	
8 to 12 ins.	9c	7c	

KOELREUTERIA PANICULATA (Golden-Rain Tree). One of the most popular small-growing flowering trees we grow. This and laburnum are the only trees with truly yellow blossoms hardy in north. You will find this tree much in demand.			
6 to 10 ins.	6c	4c	
10 to 15 ins.	9c	7c	

LABURNUM ANAGYROIDES (Golden Chain Tree)			
6 to 10 ins.	8c	6c	

LARIX LEPTOLEPIS (Japanese Larch). Dr. Wyman says, "This is the best ornamental among the larches and seems to grow faster than some of the others."			
4 to 6 ins.	5c	3c	
6 to 8 ins.	9c	6c	

LIQUIDAMBAR STYRACIFLUA (Sweet Gum). Our Sweet Gum seed is selected from native Illinois trees and has proven much superior to southern stock. If you have been having difficulty getting stands of Sweet Gum, ask our customers about results with our stock.			
12 to 18 ins.	9c	7c	
18 to 24 ins.	11c	10c	

LONICERA MAACKI PODOCARPA (Amur Honey-suckle). Much superior to straight <i>Lonicera maackii</i> for all except extreme northern U. S. We have found this the hottest screening item we can offer our customers.			
6 to 12 ins.	4c	3c	
12 to 18 ins.	7c	5c	

PHELLLODENDRON AMURENSE (Cork Tree). Top-notch, medium-growing shade tree—fast-growing, easy to transplant. Open-growing, casts light shade. Cork-like bark and spreading branches create good winter effect.			
12 to 18 ins.	6c	5c	
18 to 24 ins.	11c	9c	
24 to 30 ins.	15c	13c	

PICEA PUNGENS GLAUCA (Colorado Blue Spruce)			
3 to 5 ins.	7c	5c	

PINUS MUGO MUGHUS (Tyrolean Dwarf Mugo Pine). Probably best of dwarf Mughos.			
1 to 2 ins.	4½¢	4c	
2 to 4 ins.	6c	5c	

PINUS SYLVESTRIS (Scotch Pine). Austrian Hills. As most of our Scotch Pine is used for Christmas tree plantings it is highly important to have a bushy type with green or blue-green winter color. Types from northern Europe and the Baltic area, including the Riga type, yellow badly and are unsuited for Christmas trees. Austrian Hills types are considered best in color and form. To be sure of getting the right seed, we purchased our seed direct from an old reliable forest seed house in Wiener Neustadt; certified origin Austrian Hills 300 to 600 m.			
2 to 4 ins.	3c	2c	
4 to 6 ins.	5c	4c	

PRUNUS AMERICANA			
No. 3, about 2 1/16-in. cal.	2c	1.8c	
No. 2, 2 1/16 to 3 1/16-in. cal.	4c	3c	
No. 1, 3 1/16 to 4 1/16-in. cal.	4½¢	4c	
¾-in. cal. and up	5c	4½¢	

PRUNUS SARGENTI (Sargent Cherry)			
6 to 12 ins.	7c	5c	
12 to 18 ins.	11c	9c	

PRUNUS SEROTINA (Black Cherry)			
12 to 18 ins.	6c	4c	
18 to 24 ins.	9c	7c	

PRUNUS SERRULATA (Japanese Flowering Cherry)			
6 to 12 ins.	5c	3c	
12 to 18 ins.	7c	6c	
18 to 24 ins.	10c	8c	

PRUNUS SUBHIRTELLA PENDULA (Weeping Japanese Cherry). We do not know what per cent of these seedlings will prove true weeping. But <i>Prunus subhirtella</i> is a magnificent flowering cherry in its own right; one of the earliest to bloom and one of the most floriferous.			
6 to 12 ins.	5c	3c	
12 to 18 ins.	7c	6c	
18 to 24 ins.	10c	8c	

PRUNUS TOMENTOSA (Manchu or Nanking Cherry). We never grow enough of this item. An excellent shrub, often used as a flowering hedge. Profuse flowers bloom with forsythia. Scarlet cherries, sweet and tasty. Much used as virus-free and dwarfing understock. Our supply is good, but cover early.			
6 to 12 ins.	6c	4c	
12 to 18 ins.	9c	7c	
18 to 24 ins.	11c	9c	

PRUNUS YEDOENSIS (Yoshino Cherry). This is the species that comprises the majority of the famous Tidal Basin flowering cherries in Washington, D. C. One of the most floriferous of all Oriental cherries.			
12 to 18 ins.	7c	6c	
18 to 24 ins.	10c	8c	
24 to 30 ins.	14c	12c	

THUJA ORIENTALIS , Rochester type. Our type Oriental arborvitae is grown from seed introduced through the Arboretum at Rochester, N. Y., by E. H. Wilson. A very hardy type thriving into Iowa and excellent for screening, windbreaks and clipped hedges. Not suitable as a specimen unless sheared severely.			
4 to 6 ins.	4c	2c	
6 to 8 ins.	6c	4c	
8 to 12 ins.	9c	7c	

ULMUS PARVIFOLIA , True Chinese Elm—not to be confused with <i>Ulmus pumila</i> , which is commonly referred to as Chinese Elm. Excellent habit, foliage, bark. One of the finest shade trees growing at the Missouri Botanical Garden. A worthy successor to American Elm.			
6 to 12 ins.	6c	5c	
12 to 18 ins.	11c	9c	

ULMUS PUMILA (Siberian Elm), commonly called Chinese Elm.			
6 to 12 ins.	1½¢	1c	
12 to 18 ins.	2c	1½¢	
18 to 24 ins.	3c	2c	

MULTIFLORA ROSE

(*Rosa multiflora japonica*)

Conservation grade, 3 mm.	Per 1000		Per 1000
8 to 12 ins.	\$13.50	3/16 to 1/4-in. cal., 15 to 18 ins.	\$24.00
2/16 to 3/16-in. cal., 10 to 15 ins.	18.00	1/4 to 3/8-in. cal., 18 to 24 ins.	36.00

Plants will be top and root trimmed prior to shipping. All prices F.O.B. Elsberry. No packing charge.

NOTE—Please order in 25 multiples. 300 or more take thousand rate. Prices are F.O.B. Elsberry and include packing.

MISSOURI
GROWN
IS HARDY...

FORREST KEELING NURSERY
ELSBERRY, MISSOURI



growing . . . since '98


BURR
nurseries

WAIT
for your Burr
representative

Over and over again, nurserymen have found that it pays to deal with a reliable source of supply that can satisfy almost all their plant needs. Wait for your Burr man before buying this year. He has the answer to more profits for you next spring.

C. R. Burr & Co., Inc.
Manchester, Connecticut
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Roses

Shrubs

Trees

Evergreens

FOR 57 YEARS

Our business has been
growing

Rhododendrons
Azaleas
Perennials, Roses
All Nursery Items

BOBBINK NURSERIES, INC.
586 Paterson Ave.
E. RUTHERFORD, N. J.

LAST CALL

	Per 100	Per 1000
BOSTON IVY		
2-yr., T., No. 1.....	\$30.00	\$250.00
2-yr., T., No. 2.....	17.50	150.00
2-yr., T., No. 3 (shorts).....	10.00	75.00
CORNUS FLORIDA (White Dogwood)		
Below grafting size	5.00	30.00
Grafting and budding size.....	7.50	40.00
Above grafting size	12.50	100.00
2-yr., T., 18 to 24 ins.....	25.00	200.00
2-yr., T., 18 to 36 ins.....	50.00	400.00
CYDONIA JAPONICA, seedlings		
1-yr., 10 to 15 ins.....	5.00	40.00
1-yr., 15 to 21 ins.....	7.50	60.00
CALIFORNIA PRIVET		
1-yr., cuttings, 10 to 24 ins....	6.00	50.00
CORNUS FLORIDA RUBRA		
1-yr., grafts, field-grown.....	75.00	700.00
Free packing for cash with order.		
BROUWER'S NURSERIES		
BOX 25 NEW LONDON, CONN.		

MULTIFLORA ROSE
BROOKVILLE NURSERIES
GLEN HEAD, N. Y.

wrapped first in this material, then additionally covered with heavy paper because of the thorns. Planting instructions are often printed on the sealing tape.

Uniform Balling

Balled plants are dug with a Jiffy baller, according to Mr. Ferris, to insure a uniform-size ball. If the ball is moist, it is then enclosed in a polyethylene bag for shipping and no additional moisture is required.

"These methods were brought about by necessity," he stated. Increased postage costs were eating up profits before the nursery adopted these methods. The biggest job was educating the customer to accept material that was not packed in wet moss, Mr. Ferris said, but acceptance is now fairly general.

Illustrating the effectiveness of the polyethylene bag covering without damp packing material, George Rose told of a test shipment of roses that went around the world, was returned to Ames, Ia., and then planted out at Iowa State College in perfect condition.

Question Period

Some interesting questions were raised in the question and answer period. The inquiries and the consensus answers follow: Q.—How long should a nonbuying customer's name be kept on file? A.—About three years, with some firms sending inquiry cards before removal. Q.—Order-filing methods. A.—First by state, then city, then customer's name, because of variance of shipping season in different areas. Q.—How many follow-ups to supplement catalogs? A.—Generally only one newsprint-type flyer. One firm mailed out three, but believed the third piece did not pay. Q.—Problems of inspectors opening packages for inspection at destination as practiced in some states. A.—Suspension of sales in these states. Germain's, Inc., of Los Angeles, supplies a packaging box that can be opened for inspection and then easily resealed to overcome this problem. Q.—What are best catalog mailing dates? A.—Spring catalog immediately after January 1; fall catalog, August 1 to September 1, no later. Q.—Best source of new customer names. A.—No best, but try ads in leading garden publications, rental lists, etc. No set formula, but try all media.

E. McN.

FIRE of unknown origin destroyed a nursery equipment storage shed of the Meadowbrook Nursery, Norwood, N. J.

BIG

We have one of the largest available supplies of big specimen material, including:

TAXUS FASTIGIATA

- TAXUS REPANDENS
- TAXUS CUSPIDATA
- HYBRID RHODODENDRON
- TSUGA CANADENSIS
- GINKGO BILOBA
- AZALEA
- ILEX BUxFOLIA
- ILEX OPACA

For 38 Years
one of America's
leading nurseries



Office and Nurseries
P. O. Box 175, COCKEYSVILLE, MD.

BARRY'S EVERGREEN NURSERY
WHITE HAVEN, PA.

Collected Stock

Rhododendron maximum

18 to 24 ins. \$1.75

Kalmia latifolia

18 to 24 ins. 1.50

Field-Grown Stock

Black Hills Spruce

3 to 4 ft. 3.50

For Fall, 1956, or Spring, 1957

We have a few hundred of the smaller sizes in B&B Taxus in variety. Also a few thousand 2-yr. liners in the good varieties. Will you come and see them this summer?

VERKADE'S NURSERIES

P. O. Box 336
NEW LONDON, CONN.

For Quality Stock
RICKERT NURSERIES

Successor to Moon's
Established 1767
MORRISVILLE, PA.

Growers of a general line
of nursery stock.
Visitors welcome.

FAIRVIEW EVERGREEN NURSERIES
FAIRVIEW, Erie Co., PA.

NOW... a safe nitrogen fertilizer for late summer months



Here's proof of the amazing results you get with Borden's 38. Note the rich growth of the plant fed with Borden's 38, compared to the undernourished plant grown under similar conditions but fed only an ordinary nitrogen compound.



Slow-release Borden's 38 nourishes plants, ornamentals, turf without danger of burning

It's never too late to apply Borden's 38 nitrogen fertilizer, even in the hottest summer "dog days." Developed after years of testing by horticultural experts, Borden's 38 ureaform fertilizer releases its 38% nitrogen content steadily, safely without danger of burning or washing away when used as directed.

Unlike water-soluble fertilizers that supply nitrogen in one fast-acting blast, Borden's 38 can supply a whole season's feeding from one application. If you didn't have an opportunity to use Borden's 38 earlier this growing season, and plants and ornamentals are beginning to show signs of "nitrogen-starvation," apply this nourishing, safe fertilizer now. You'll find that it's clean, odorless, easy to handle. And most important, it's economical. The cost of the nitrogen in Borden's 38, pound-for-pound, costs no more than organic fertilizers containing 3% to 7% nitrogen. And, you save on shipping and storage costs because one bag replaces several bags of ordinary fertilizer in nitrogen content.

Order your Borden's 38 today. If you can't locate a source of supply, write the address below for the name of your nearest distributor and for descriptive literature.

THE *Borden* COMPANY • CHEMICAL DIVISION • 350 MADISON AVENUE, N. Y. 17, N. Y.

THIS BUSINESS OF OURS

Reflections on the Problems of Nurserymen

By E. Sam Hemming

STREET TREE PROBLEM

I had just decided to write an article on the street tree problem when I received the July 15 issue of the American Nurseryman, containing the paper by J. W. Anderson discussing the problem. At the recent meeting of the Maryland Nurserymen's Association, the subject was discussed by a representative of the Baltimore Gas & Electric Co. There is no doubt that this problem has both the public utilities and the city governments truly worried because of the great cost of repairing damages, which now runs into the millions of dollars annually. The real danger in the present awareness of the problem is that a simple solution will be sought which will turn out not to be the solution.

The problem really is a complex one and is almost a classic example of the irresistible force meeting an immovable object. It can almost be summed up by a little incident in which a utility lineman told me that if he had his way he would cut every tree down and then, a short time later, walked over to sit in the shade of a tree and eat his lunch.

It is as difficult to picture our comfortable civilization without our many utilities as it is to picture a town or city without trees and landscaping. In an article written within the past year I deplored the steady loss of small park areas and street trees in so many of our municipalities, largely as the result of a crying need for more auto parking areas and for wider streets and throughways for the automobile to travel on. I recall that one reader remarked that the nurserymen were reaping the harvest of their ill-considered plantings of quick-growing and large-growing trees. This theme seems to be the whipping boy at the present.

When I first left school, I had made a mental resolve to use only choice types of trees, no quick-growing, trashy trees for me. But after seeing what customers' neglect can do to the usually more difficult but choice trees, I have gained considerable wisdom. My ideas have not changed, but I can see the answer is not black and white. Not nine out of 10, but 99 out of 100 customers

will say, "Oh! I won't live long enough to see that tree grow." Ask any nurseryman if he has not heard that before.

Nurserymen and tree planters long ago gave up the planting of Carolina poplars, Chinese elms and even silver maples as street trees. Now the nurseryman is being blamed for planting pin oak, red oak, sugar maple, red maple and American elm. Twenty-five years ago the best authorities recommended them, not the nurserymen. Besides, have you ever driven down the main street of a

New England town and admired the massive elms? Now the trees suggested run in the class of *Sophora japonica* and others that reach a 30 to 35-foot maturity height. Of course, in spite of what is said, these trees are not going to be the answer either. Frankly, I and any other nurseryman can give reasons why not to plant any tree that can be named. Also, any tree can develop its own disease, like the chestnut blight, oak wilt or Dutch elm disease.

Since the problem is a complex one, the answer is a complex one, and the solution can at best be but a compromise. In addition to wise selection of the tree planted, including the smaller-growing tree, which is part of the answer, the following subjects must be considered: Planning, education and cooperation.

Planning is and should be one of the most important considerations,

GUARANTEED-TO-LIVE TRANSPLANTED EVERGREENS



	Per 1000
American Arborvitae, 4-yr. transplants (2-2), 4 to 8 in.	\$ 70.00
Canadian Hemlock, 3-yr. transplants (2-1), 3 to 5 in.	120.00
Austrian Pine, 4-yr. transplants (2-2), 5 to 10 in.	70.00
Mugo Pine, 4-yr. transplants (2-2), 3 to 5 in.	70.00
Norway Red Pine, 4-yr. transplants (2-2), 5 to 10 in.	65.00
Scotch Pine (Riga strain), 4-yr. transplants (2-2), 4 to 8 in.	65.00
Scotch Pine (South Sweden), 3-yr. transplants (2-1), 3 to 6 in.	65.00
White Pine, 4-yr. transplants (2-2), 5 to 10 in.	65.00
Colorado Blue Spruce, 5-yr. transplants (2-2), 5 to 8 in.	115.00
Colorado Blue Spruce (Forest Run), 4-yr. transplants (2-2), 4 to 10 in.	110.00
Norway Spruce, 4-yr. transplants (2-2), 4 to 8 in.	70.00
White Spruce, 5-yr. transplants (2-3), 10 to 15 in.	80.00

SEEDLINGS (not guaranteed)

American Arborvitae, 3-yr. seedlings (3-0), 3 to 5 in.	25.00
Norway Red Pine, 3-yr. seedlings (3-0), 6 to 10 in.	25.00
White Pine, 3-yr. seedlings (3-0), 6 to 10 in.	25.00
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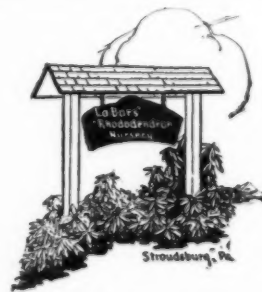
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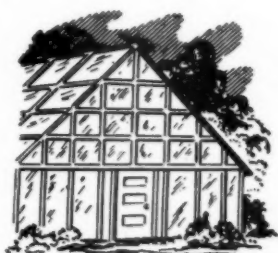
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and by saying this I am not passing the buck to the landscape architect and city planner. They know how to plan well enough. Their difficulty lies in getting their plans adopted by the cities and the municipal governments. It is in this area that education will be so important, and that means not only the education of the citizen but also the politician. In planning our city streets it may eventually be necessary to avoid using the parkway strip for trees, making it narrower and putting the trees well back on the lawns. On the parkways and some avenues the utilities can be put underground, although this is extremely expensive.

Alternatives

In still other areas the utility companies may be able to feed lines from the back alleys toward the streets. In these instances backyard trees too close to the lines would have to be avoided. On other parkways a central strip or panel could be reserved for trees, with the utilities on the sidewalk strip. On narrow streets, where space is at a premium, trees would have to be avoided altogether. In such instances small areas at intervals of perhaps several blocks should be reserved for little park oases to relieve the monotony of bare streets. Surely there are still other variations that will serve. Even park-like areas within the center of the block rather than on the street perimeter would help the residents.

I know that the power companies have been appalled by the high cost of repairing the damage caused by such storms as hurricane Hazel, but I imagine a sizable percentage of that damage was not attributable to planted street trees. Some of that damage was caused by backyard trees planted before the lines were installed. Another portion of the damage was probably caused by roadside weed or volunteer trees, not being the direct responsibility of anyone's planting.

The vital place which education of both the citizen and the politician holds is attested to by the ignorance of both of the problem and their need for accurate information. Unless the full story is given them, they will be the losers. The citizen must know he has to give up something to get something else, as well as the reason for the decision of the city planners.

The real answer will be a compromise, in which the nurseryman will remain alert to the production of the most suitable trees and both the citizen and the politician will be educated to accept and consider the

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thoughtful proposals of the city planners. The utilities will have to cooperate to the best of their ability with the realization that while it would be nice if there were no trees to bother them, yet trees are a necessity for the physical beauty of a city and for the pleasure and comfort of its citizens.

NEHRLING GIVEN AWARD

At its recent annual meeting held at St. Louis, Mo., the Men's Garden Clubs of America awarded its gold medal, highest award of the organization, to Arno H. Nehrling, executive secretary of the Massachusetts Horticultural Society. The medal, presented for outstanding achievement in the field of horticulture, was awarded to Mr. Nehrling for his many accomplishments and distinguished service to the Massachusetts Horticultural Society.

He was cited for his leadership of the world's second largest horticultural organization, for direction of the society's annual spring flower show and nine special shows held each year, as well as his able direction in guiding the magazine Horticulture.

MILWAUKEE FIELD DAY

The Master Landscape Gardeners' Association of Milwaukee, Wis., will sponsor its fifth annual summer demonstration meeting at Milwaukee's Whitnall park August 22. This is a family affair, with nursery and landscape men attending from throughout the state to see field demonstrations of large and small tools, tractors, spray and irrigation equipment, fertilizer spreaders and soil preparation machinery. Refreshments are served all day, as well as a free luncheon at noon, according to Donald Groth, Milwaukee, secretary-treasurer of the group.

UNFINISHED BUSINESS

[Concluded from page 6]

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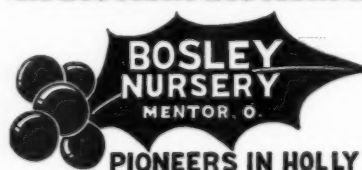
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By H. E. Gray. 78 p. (1950). \$1.50.
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PLANT NOTES HERE AND THERE

By C. W. Wood

Thlaspi

I wish I could be more encouraging to the Kentucky reader who asks for a few words on thlaspi, but no experience with the plant here in northern Michigan leads me to think that really good kinds would be fit for general cultivation as far south as Kentucky. About the only thing left to do is to cite some of my experiences, and the Kentuckian and others can do their own judging.

The genus is made up of a great number of ordinary-looking, weedy plants (some were actual pests after they were allowed to go to seed in the trials) of the crucifer family, with an occasional ornament difficult to grow. Of the later, *Thlaspi rotundifolium* is a good example. It is, in my opinion, one of the loveliest of the alpine with nearly blue flowers that can be grown in lowland gardens with a little more than ordinary care. Perhaps I should have said quite a little more than ordinary care, for it is easy to see that the soil and climate of parts of the country would give one trouble. Certainly, I should expect to run into difficulties in its culture throughout the south.

Perhaps I can do no better than describe briefly how it was handled for best results in my trials. First of all, it is apparently a lime lover; so I provided it with a limestone, scree soil, made up of sand, gravel and limestone chips and leaf mold from maple and beech trees. That soil, some shade during the hottest part of the day (no doubt considerable shade would be needed farther south) and moisture during dry weather were necessary for good results here. It would not, because of its long, thick taproot, be a plant to sell in the ordinary way, for it suffers from disturbance more than almost any other alpine that I know. It could be grown in a deep rose pot and sold before it outgrew the pot.

It is, I think, one of the alpine of difficult culture whose beauty deserves the attention needed to cultivate it. That beauty consists of tight heads of honey-scented, pinkish-lilac, cross flowers, almost stemless on rosettes of small, round leaves. Seeds germinate readily, but the young plants require care until they are established in their permanent homes. Cuttings of new growths, taken in

June in northern Michigan, perhaps earlier farther south, root readily in a shaded frame. The same treatment applies to all the difficult thlaspi species that I have grown.

Another of the small kinds, *T. limosellaefolium* (I believe it is considered a variety of *rotundifolium* by some) would probably be better suited to the Kentucky climate, or to any American conditions, for that matter, if it behaves elsewhere as it did in Michigan. It was somewhat easier to transplant, and its looser tuft of bright green leaves was less subject to damage from spells of hot, muggy weather. And its clusters of fragrant flowers, on 3-inch stems, blooming at the same time as the other, are just as handsome, though

of a lighter shade of pinkish lilac.

Many other species are mentioned in the literature, most—excepting *T. bellidifolium*, of the *rotundifolium* persuasion, and *T. stylosum*, a short-lived species that found northern summers too difficult—being either annuals or biennials and unspectacularly white of flower.

Potentilla Palustris

Another inquirer asks about *Potentilla palustris*, sometimes called *Comarum palustre*. This is the swamp cinquefoil of authors who have to have a common name for everything, found in wet places in northern North America, Europe and Asia and not found in gardens so far as I have observed. It is easy to under-

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stand why gardeners have never taken it into their affections, because it is unshowy and has to have more moisture than most gardens can supply. It is quite stoloniferous, sending up stems 10 to 20 inches in height, with typical cinquefoil foliage, and, in common with the strawberry characteristics of other cinquefoils, its purplish flowers are followed by strawberrylike fruits, but in this case they are not edible, being soft and insipid.

Large-Flowered Kniphofia

I have been making notes on the large-flowered torch lilies during recent years, from which I condense the following observations. First, though, let me say that, though the plants may be called winter hardy, that does not mean they are as hardy as an oak or even that they can stand in the open field in northern climates without good protection. Although the modern large-flowered kinds no doubt carry a preponderant strain of *K. uvaria* (the hardest of the species that I know), even that advantage does not mean immunity from cold, for even the species is often winter-killed in northern Michigan. Incidentally, I knew a plant of *K. uvaria* that was in a Lake Michigan garden for more than a quarter century;

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Box 457, LAKE CITY, MINN.

when the garden changed hands a few years ago and entered a period of utter neglect, the torch lily was one of its highlights, with upward of 20, 3-foot spikes of yellow and scarlet tubes. But let us get to a few modern kinds.

The most spectacular one that I have seen is the new English variety, W. S. Reeves, which will reach six feet on established plants under good culture. And that is some torch lily! That portion of the scape bearing pretty coral-red flowers during July may be 15 inches long and five inches in diameter. It must be quite hardy, for I have seen it growing in the open in northern Ohio and southern Michigan.

I have also been favorably impressed by K. rosea superba. It is of the usual 3-foot stature of the large-flowered kinds and is a prolific producer of attention-arresting spikes, the upper portion of the spike being rose-pink, approaching red, and the lower part pure white. It is a most unusual thing.

But to me the most pleasing of the new, named, large-flowered varieties that I have seen is the patented Maid of Orleans. There is nothing flamboyant about it; instead, the flowers commence in a soft yellow shade, fading in a day or two to a pale yellow and becoming finally ivory-white, giving an over-all effect of white. That does not give an exact picture of the flower—something that will only come from a personal view of the plant at the height of its blooming season. It grows up to three feet in height, blooming through July, and is reportedly fairly hardy.

Saxifraga Longifolia

Answering an inquiry from a Massachusetts reader on Saxifraga longifolia: It is true that this is one of the loveliest of the encrusted kinds and also one of the easiest to grow. In making a selection to add to a list of offerings, one should remember that this plant is monocarpic; as it makes no offsets, it must be grown from seeds. And that is something

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many gardeners do not like. As a consequence, there is little likelihood that it ever will become highly popular in this country.

It has, however, as have many of the encrusted kinds, given some lovely hybrids. Perhaps the loveliest of these available in this country is the one known as Tumbling Waters, which has something of the magnificence of the parent's silvered rosette, with the added virtue of producing offsets and a 3-foot spike of pure white flowers. That ability to produce offsets is the open door to a good profit item and to an outstanding garden ornament for your clients.

Androsace Lanuginosa

The same inquirer asked for a note on the Himalayan *Androsace lanuginosa*, which I am glad to give. It is a lovely silvery creeper, lacking the strawberrylike runners of the more popular *A. sarmentosa*, but spreading around in the rock crevices of a suitable planting site, filling all within reach with its silvery-gray, ovate leaves and soft rose flowers on 4-inch stems from June onward into autumn, if the weather is not too dry. Please observe that long blooming season, for it is one of great value in any plant and especially in the case of a small alpine.

According to my way of looking at these matters, it is just about the loveliest of the unbellate plants but it seemed to be too tender for this northern Michigan climate. In any event, it was lost so often during severe winters that I gave up trying to keep it. Under conditions in northern Michigan the same may be said for variety *leichtlini*, which is similar in growth habits to the parent, but its flowers are white with a crimson eye, or yellow eye according to some, though I do not recall ever having any yellow eyes in this garden.

In this climate *androsace* has to be given a position that is sheltered from winter winds, which usually means a southern slope, and that is too hot during the summer unless the plant is given plenty of root moisture without an overabundance at the surface. In more temperate sections, the plants could be grown on a north slope, where they would be sheltered from the noonday sun by rocks or tiny shrubs. Of course, the soil must be well drained.

Some Small Columbines

A correspondent in New Jersey, who has a neighborhood nursery and a small garden shop, said in a recent letter that he has found from experience during the past three years that he has been missing many

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100 or more	1.20
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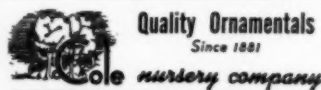
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2000 Jackson St. PAINESVILLE, O.

opportunities for increasing sales and building prestige among his more experienced clients by neglecting some of the lesser known plants of garden appeal. He mentioned *Aquilegia bertoloni* specifically as being a plant that has sold well and, in addition, has awakened an interest in other unusual plants. His source for seeds of the plant is not entirely reliable, he reported, wondering if there was such a thing as true seeds of columbine. The entire letter is a challenging thing, and I am glad to give my experiences in some of its phases, with the hope that they may be at least slightly helpful to the correspondent and other readers.

A. bertoloni belongs to the *A. pyrenaica* complex, as I understand it, of which there are a number of forms, perhaps geographical, differing mostly from the botanists' standpoint by being hairy or downy in different parts of the plant and in lesser degree in shape and size of flower. It has been my experience that one is likely to get plants approximating the descriptions of any of the half-dozen or more forms from garden-saved seeds of any of them. Thus, seeds marked *A. kitaibeli* from a careful European grower produced at least half pure *pyrenaica*, as I understand that plant, in trials here in Michigan, according to my records. Actually, that makes little difference, though, so long as one stays away from the unpredictable *A. alpina*, for they are all lovely, all quite easy of culture and all rewarding. Let us briefly examine the head of the clan to see what is in store for us when we attempt any of its members, including *A. bertoloni*, *A. einseleana*, *A. portae* and *A. thalictrifolia*. I notice that "Hortus" gives *A. bertoloni* as a synonym of *A. reuteri*.

Aquilegia Pyrenaica

A. pyrenaica is one of the easiest of the small columbines to grow and is also to be numbered among the best. Its small, lacy foliage and blue flowers on 8-inch or slightly taller stems make it an attractive plant, and its blooming season in June and July, after most of the small kinds have ceased to bloom, adds to its usefulness. It grows well in any sunny or partly shaded spot in well-drained soil. It should be remembered, though, that most columbines are rather short-lived.

America has a number of small columbines which might interest the seeker for the unusual. Of the ones comparatively easy to grow, *A. saximontana* should find a prominent place. It is, from the gardeners' stand-

ERROR

Our advertisement in the August 1 issue.

PIN OAK

The botanical name, of course, is

Quercus palustris

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<i>Aronia arbutifolia</i>	6.00	50.00
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<i>Cornus florida</i> , grafting size	8.00	75.00
<i>Cornus florida</i> , budding size	7.00	60.00
<i>Cornus florida</i> , small	6.00	50.00
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<i>Ilex verticillata</i>	7.50	60.00
<i>Sorbus aucuparia</i>	12.00	100.00
<i>Tilia cordata</i>	15.00	125.00
<i>Viburnum carlesi</i>	25.00	225.00
<i>Viburnum carlesi</i> , small grade	20.00	180.00
<i>Viburnum setigerum</i>	18.00	150.00

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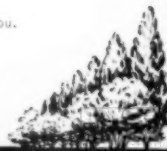


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point, essentially a small form of the Rocky mountain columbine, *A. coerulea*, with the same blue (short-spurred in this case, however) flowers on stems about six inches high. It is a little beauty and like its big brother is rather short-lived in the east. I suspect, from its behavior in Michigan that it needs an acid soil and am sure that it must have perfect drainage and is better for having a rock under which it can send its roots.

The tiny *A. jonesi* should be mentioned, but it is still little more than a dream in eastern gardens. Also, there are dwarf forms of *A. canadensis* which one should search out.

Hosta Honeybells

I have had under test during the past few years a new plantain lily, Hosta Honeybells, that has all the earmarks of becoming one of the best new hardy herbs of recent introduction. In northern Michigan's light soil, it does not make maximum growth, but even so it makes a grand display under these handicaps, and, when I saw it last year in rich, heavy soil in northern Ohio, I knew that my high appraisal had not been far wrong. There it grew all of three feet tall, with its pretty, large, plantain-like leaves in generous clumps

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2-yr., 4 to 5 ft.	4.50
2-yr., 3 to 4 ft.	3.50
1-yr., 3 to 4 ft.	2.75
30 to 36 ins.	2.00
24 to 30 ins.	1.50
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PINK DOGWOOD

7 to 8 ft., B&B	7.50
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5 to 6 ft., B&B	4.50
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6 to 10 ins.	
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and "elegantly sculptured trumpets of soft lavender-blue, with creamy underbase and darting blue pencilings, plus enticing fragrance like arbutus," as the catalog has it. It blooms here from about the third week in July onward through August. I do not know its parentage, but for those who know their hostas it will bring back the delightful fragrance of *H. plantaginea*, some of the flower color, somewhat diluted, and flower form of *H. caerulea* and the root-stalks of both kinds, instead of the more fibrous roots of the other two popular kinds, *H. fortunei* and *H. japonica*.

LANDSCAPE PANEL

[Continued from page 11]

plain the plan and endeavor to convince the employee that it is part of their earnings. His firm also encourages employee savings accounts. It takes time, often a matter of some years, before such programs are welcomed by employees.

Work Week Problem

How to compete with the 40-hour week is another problem of landscape nurserymen. Mr. Parnham said that most of the workers in his area who are now down to 35 to 40-hour work weeks hold extra part-time jobs; they want more take-home pay. All of his seasonal employees hold other full-time or part-time jobs. Will the shortening of the work week mean two crews or shifts for the landscape nurseryman during his busy seasons?

Harold Reid, Park Nurseries, St. Paul, Minn., related how his firm had many years ago been able to hire foreign-born men with gardening training abroad. A few years ago, when it was no longer possible to replace them with similarly trained men or with young men beginning in landscape work, the firm decided to hire men over 45 years old, even 65, whom other industries would not hire just because of their age. He said that this idea had proved most successful, for these older men wanted the satisfaction of working as well as of earning a living.

Mr. Gardiner called attention to a recent survey made by the United States Chamber of Commerce which revealed that there was a diversity of opinion between employees and supervisors as to the relative importance of morale factors. Supervisors listed wages, security and promotion as being most attractive to employees, while employees themselves considered appreciation, personal in-

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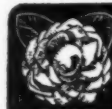
4-in. length, 3/16-in. width .010 gauge—2800 strips per lb.	Per lb. \$2.75
1 to 10 lbs.	\$2.75
10 to 50 lbs.	2.37

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ORNAMENTALS

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terest and being in on company policies and business as most important to them.

Leading the discussion on "Getting the Most from Customers," Charles Armstrong, Capital Nursery Co., Sacramento, Calif., deemed it more important to consider giving to, not getting from the customer in this buyers' market era. Find out what the customer really wants and what he already has before trying to sell him anything. Give him educational information. Tie-in sales of supplies and accessories can be most helpful to the customer, as well as added income for the nurseryman.

Martin Drescher, W. A. Natorp Co., Cincinnati, O., advised a policy of doing for the customer as the nurseryman would want things done for himself. But be sincere about taking the customer's viewpoint, Mr. Drescher said. Too many landscape salesmen, he declared, do not themselves live on well-landscaped, well-cared-for home grounds, or sometimes when they do, the planting and maintenance are done by their own firms, so they do not know the real cost or effort involved.

Fred Teas, Teas Nursery Co., Bellaire, Tex., said it had been his experience that by giving extra service, such as mailing monthly gardening bulletins to customers, better prices could be commanded.

Pointers on Ordering

It was the opinion of Russell Zakariasen, Homedale Nursery, Hopkins, Minn., who led the discussion regarding wholesale suppliers of nursery stock, that to aid in placing future orders, records should be kept on the performance of the wholesaler as to quality and trueness of name of stock delivered, promptness of shipping, type of packing and completeness of order filling. It is up to the retailer in turn to specify clearly to the wholesaler the type of packing and shipping desired, date of delivery and terms. He should be fair and not expect too much. Before making a complaint, the buyer should be sure the later bad performance of the stock is not his or his customer's fault before complaining to the wholesaler. An unfair complaint reduces the acceptability of later complaints, even though they be wholly justified. The buyer should pay his bills promptly, and it is well to keep in mind that there is a credit rating guide, use of which should not be resented by the buyer, for every type of industry uses one.

It was the advice of Richard H. Jones, Jones Ornamental Nursery,

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well br.	\$4.00	\$35.00
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LAKE GROVE, ORE.

Nashville, Tenn., that in order to get the most out of himself, the employer should not set too fast a pace for himself. He should train employees well and delegate responsibility and authority as much as possible.

In the added discussion from the floor it was mentioned that there is a temptation to pass by small jobs from old customers for much bigger ones, such as a new home or industrial building may offer, but it was deemed unwise to do this.

Discussion Points

Another subject was the use of landscape architects as salesmen. Some firms do this, believing it better for the customer to deal only with one man, while other firms believe that designing and selling are not similar jobs and can seldom be done well by the same person.

It was brought out that the trend is toward charging for landscape plans. No other industry gives away its product—why should the landscape man? Some firms charge separately for the plan; others require a deposit and either refund it on completion of the job and payment or apply it toward the cost of plants and planting when the job is sold.

More plants and plans could be sold, said Tom Moore, Select Nurseries, Whittier, Calif., if customers were shown the benefits to them from putting a plant in the proper place not merely for its good appearance, but for its well-being.

There is a problem of some building architects' doing site planning and even specifying plant materials, often offering this part of the building work "free of charge." That the public is so ready to accept this from usually unqualified sources is a sign that landscape architects are failing to sell their worth to the public, said Mr. Parnham.

A. A. N. CONVENTION NOTES

William Steinmetz, son of Avery H. Steinmetz, Portland, Ore., was married in May to Miss Sandra Adams. He is now employed by Fayette Weedon, Troutdale, Ore., grower for his father's firm, the Portland Wholesale Nursery Co.

Mrs. Henry Hausch, Roseway Nurseries, Beaverton, Ore., attended the convention in a wheel chair because of severely torn ligaments suffered in a fall as she was bringing in roses just cut from her fields for the A. A. N. convention train stop-over at Portland.

It was a hectic automobile trip for James Griffin, Jr., Key Biscayne, Fla.,

executive secretary of the Florida Nurserymen and Growers Association, and his family. In Texas he lost his wallet, necessitating backtracking over 300 miles to recover it, and later his gasoline credit card, which caught up with him at Los Angeles. By the time the family checked in for the convention, a live parrot had affixed itself to their belongings.

An army jet pilot, First Lieutenant Tom Kyle, Jr., son of Tom Kyle, Bohlender Nurseries, Tipp City, O., is on his way to Japan.

James Ilgenfritz, Jr., son of James I. E. Ilgenfritz, Ilgenfritz Nurseries, Inc., Monroe, Mich., is on his way to Korea for a 12-month tour of duty as a jet pilot in the AACS. He holds the rank of first lieutenant.

William Kelly, Kelly Bros. Nurseries, Inc., Dansville, N. Y., and Dolly McFadden, also from Dansville, plan to be married sometime in August.

Mrs. William Smart sprained an ankle three days before the special convention train left for Los Angeles, but managed to make the trip and attend the convention.

Elizabeth Wight, daughter of Mr. and Mrs. John B. Wight, Wight Nurseries, Cairo, Ga., was married July 3 to Joe Tarbuck, Fort Walton, Fla.

Celebrating their birthday anniversaries during the special convention train trip to Los Angeles were Alex Tuschinsky, Hillside Landscape Co., Indianapolis, Ind., who was 70 years old July 10; Mrs. O. E. Goetz, Goetz Nursery, Inc., St. Louis, Mo., July 11, and Janet Scott, daughter of Mr. and Mrs. Norman J. Scott, Brookdale-Kingsway, Ltd., Bowmanville, Ont., Canada, and Victor Hoogendoorn, son of Mr. and Mrs. Case Hoogendoorn, Hoogendoorn Nurseries, Newport, R. I., on July 13. Mr. Scott had wired ahead to the Awahnee hotel in Yosemite Park, Calif., so the children would have a special birthday cake.

Construction of a new cold-storage building to house B&B magnolias and hardwood cuttings at the Morning Star Nursery, Rives, Tenn., was announced.

The daughter of Mr. and Mrs. Arthur Watson, Watson Nursery, Grand Rapids, Mich., and her husband, who is a lieutenant commander in the navy, are now residing at Key West, Fla., as the result of a recent official transfer. The Watsons plan to visit them and their two granddaughters next February.

Their first child, a daughter, Meredith, was born July 4 to Mr. and Mrs. David Armstrong, Armstrong Nurseries, Ontario, Calif.

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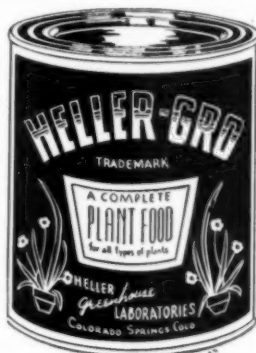
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CALIFORNIA ASSOCIATION OF NURSERYMEN

ELMER J. MERZ, Executive Secretary

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SAN JOAQUIN CHAPTER

The June meeting of the San Joaquin chapter of the California Association of Nurserymen was held at Fresno, on the campus of Fresno State College. The slate of officers for the coming year was announced by President Ivan Stribling as follows: President, Robert Moffet, A. J. Moffet & Sons, Gustine; vice-president, Watt Keister, Fresno branch of Germain's; secretary-treasurer, Marion E. Gardner, Stribling's Nurseries, Merced, and directors, Howard Riggs, Riggs Nursery, Madera, and Ivan Stribling.

The group was taken on a tour of the new campus by Louis LaValley. Dinner was served in quarters of the new ornamental horticulture department. Mr. LaValley introduced Vernon Olney, Geigy Chemical Co., who gave an informative talk on chelates and sequestered fertilizing material.

The June meeting was the final one until activities are resumed in the fall. It was decided not to hold the customary meeting in September, but to meet October 19, so that the chapter meeting would not be held at the same time as the state association convention.

Marion E. Gardner, Sec'y.

TRI-COUNTY CHAPTER

New officers were installed at the regular meeting of the Tri-County chapter of the California Association of Nurserymen July 27, at the Palms hotel, Carpinteria, Calif., by Bert Kallman, Kallman's Garden Nursery, Santa Barbara. They are as follows: President, Dr. Carl B. Wolf, Sespe Land & Water Co., La Cienega Nursery, Fillmore; vice-president, Henry Stribling, Kallman's Garden Nursery, and secretary-treasurer, Mrs. George Steelman, Camarillo.

Dr. Wolf received his A.B. degree at Occidental College, Los Angeles, in 1926, his M.A. at Stanford University, Stanford, in 1927 and his Ph.D. at Stanford in 1930. He was a biology teacher there from 1926 to 1930, a botanist at Rancho Santa Ana Botanic Garden from 1930 to 1945 and has been with Sespe Land & Water Co. since then.

Mrs. George Steelman, Sec'y.

GRAPEVINE REGISTRATION

The California state department of agriculture held a public meeting July 27 in the Department of Agriculture building, Sacramento, to consider the adoption of proposed regulations for the registration of grapevines as rootstock sources for the propagation of nursery stock.

The July 27 hearing was a continuance of one held June 28. On that date the hearing was recessed to give time to study new proposals and to give interested persons an opportunity to attend the reconvened hearing.

Under the proposed program, grapevines, when inspected, tested and found free from serious virus disease, would be registered with the department. The service would be optional and supported by fees paid by participating nurserymen and growers.

G. K. A.

CALIFORNIA NOTES

Lincoln Fong, who operated an ornamental retail nursery at Palo Alto before being called into the army, is now in charge of sales at the El Padre Nursery, on Bay road, at Palo Alto.

Oscar L. Hemphill, for 27 years agricultural commissioner in Tulare county, has retired and has been succeeded by his deputy, Elvin O. Mankins.

The Herbert S. Frank landscape organization of Belmont was awarded first prize for the best residential landscape job in California by the California Landscape Contractors' Association at its recent meeting at Lake Tahoe.

Strawberry growers are hailing a recent report from the University of California to the effect that verticillium wilt of strawberries can be controlled by chloropicrin.

A speaker on the Green Thumb TV program the past month was Lou Schenone, of the Pacific Nurseries, Colma, who talked on "Shrubs and Trees for Screens and Wind-breaks."

Prof. H. M. Butterfield, of the University of California at Berkeley, has announced the names of the judges for the agricultural exhibits

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at the San Mateo county floral fiesta. Prizes for horticultural exhibitions will amount to nearly \$55,000. The theme for the fiesta this year is "San Mateo County 1856-1956."

About 75 plant growers, mostly from San Mateo county, visited the John Edwards Nursery, East Palo Alto, July 21. The stop was one of five made during a San Mateo flower and plant growers' tour conducted by the San Mateo county extension division of the University of California under the leadership of H. R. Sciaroni, farm adviser. The group saw the results of the use of sludge and wood shavings, in comparison to conventional mixes with peat, as a medium in which to grow camellias, daphne, Meyer lemon and other ornamental plants at the Edwards Nursery. Plant growers in the state are interested in substitutes for peat since recent freight rate changes have increased the cost of the latter.

Retailers believe the midsummer slump in sales is less than normal. However, it seems that buyers are looking for bargains:

John Davis, Jr., who had engaged in tree surgery and agricultural pest control business at Reno and Carson City, Nev., has resigned his position there and will return to Menlo Park to take over those phases of his fa-

AMAZING NEW FLORY DWARF PEACH

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ther's business. John Davis, Sr., will devote more time to his pest-control machinery selling activities.

W. B. B.

OREGON BOARD MEETING

The board of directors of the Oregon Association of Nurserymen held a meeting at the Portland Wholesale Nursery Co. office building at Portland June 21.

One of the principal items of business concerned a report made by Melvin Conklin, of the Oregon State College, Corvallis, who is in charge of a marketing research survey of horticultural specialties in Oregon. It is desired to bring up to date the Fossum survey of 1949 on horticultural specialty crops. To start, Mr. Conklin will interview nurserymen, and the O. A. N. board has urged the cooperation of all. Appointed to work with Mr. Conklin was a committee of three, James Doty, Reed Vollstedt and Joe Klupenger. President Melvin Surface will also assist.

The following new members were elected to the association: Frank G. Mackaness, Portland General Electric Co.; May Nursery Co., Yakima, Wash., and Acme Peat Products, Ltd., Vancouver, B. C., all associate members, and Dixon Dell Gardens, Dundee; Coopers Gardens, Canyonville, and James F. Dresser, Oregon City, all active members.

The board discussed the possibility of entering a display at the Pacific international livestock exhibition. Also reported was the recent meeting of O. A. N. officers and committeemen with foresters, plant inspectors, plant pathologists and lumbermen at Corvallis to discuss Phytophthora lateralis of chamaecyparis and Phytophthora cinnamomi.

C. H. P.

DISCUSSES PHYTOPHTHORA

Officials of the Oregon Association of Nurserymen met with plant inspectors, plant pathologists and foresters at Corvallis May 30 to discuss disease problems and research relating to phytophthora infestations and its spread to forest areas. Under scrutiny were Phytophthora lateralis, a root rot disease of chamaecyparis (which includes Port Orford cedar) and Phytophthora cinnamomi, a root rot disease of many shrubs and trees of commercial importance.

O. A. N. President Melvin Surface, Surface Nursery, Gresham; S. Rich, Rich & Sons Nursery, Hillsboro; Louis Nuffer, Mountain View Nurseries, Inc., Gresham, and Edward

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Schultz, Calorwash Nursery, Portland, participated in the discussion and presented control procedures of phytophthora diseases now being applied on nursery crops. Mr. Schultz is chairman of the quarantine committee of the O. A. N.

According to L. B. Loring, pathologist for the state department of agriculture, *Phytophthora cinnamomi* is not widely distributed in western Oregon and is likely not a native organism in the state. Mr. Loring's statement was based on a recent survey of 108 samplings of rhododendrons, an apparently preferred host. The soil and root samples were from western Oregon locations. Forty-four were from home and cultivated plantings distributed throughout the Willamette valley. The remaining 64 were largely from wild plants growing in the Cascade, Coast and Siskiyou mountains. Mr. Loring's survey in home and wild plants is independent of a phytophthora study made earlier in Oregon nurseries by the department's bureau of nursery service. The earlier survey found this fungus in a few Oregon nurseries, for which a control program was mapped by the nursery officials.

Conclusions drawn at the meeting were these: (1) More research work is needed on phytophthora diseases to establish their methods of spread, improve control practices and determine their virulence on the numerous host plants they are known to affect; (2) sanitation and quarantine regulations should continue to be strictly enforced, and (3) continued cooperation among nurserymen, foresters, inspectors and O. A. C. personnel is needed in combating mutual disease problems. C. H. P.

PATENT LICENSEES MEET

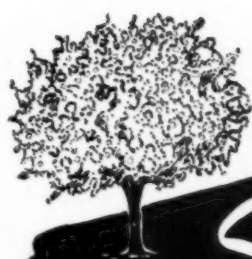
When the Association of Plant Patent Licensees held a luncheon meeting July 17 at the Statler hotel, Los Angeles, Calif., the following officers were elected for the ensuing year: E. (Mike) Dering, Peterson & Dering, Scappoose, Ore., president; C. J. Lauden, Consolidated Nurseries, Tyler, Tex., vice-president, and Charles Hogan, C. R. Burr & Co., Manchester, Conn., secretary-treasurer.

OREGON NOTES

J. Frank Schmidt, Jr., Troutdale, has a new 60x140-foot warehouse and office building. The firm also has purchased two new Ford trucks.

Parkrose Landscape Nursery, Portland, has discontinued business.

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Sylvan West, northwest district sales representative of the Railway Express Co., will be a featured speaker at the convention of the Oregon Association of Nurserymen at the Gearhart hotel, Gearhart, September 10 to 12.

C. H. P.

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ent lawyers:No. 1480. Rose plant. Thomas Edi-
son Motose, Fairport, N. Y. A new and
distinct variety of rose plant of the hybrid
tea class, characterized as to novelty by
the color combination, shape and long-
lasting quality of its bloom; the capacity
or tendency of its flowers to attain their
fullest or greatest beauty when their
petals are fully unfurled; its prolific and
recurrent blooming habit, and the vigor
of its growth and hardiness.No. 1481. Carnation plant. Willard
Ralph Singleton, Suffolk county, New
York, assignor to the United States as
represented by the United States atomic
energy commission. A new and distinct
variety of carnation plant, characterized
particularly by its generally white flowers
which are completely free of the red sinus
blotch, even when bruised, characteristic
of the white flowers of the variety White
Sim.No. 1482. Plum tree. Herbert C. Swim,
Ontario, Calif., assignor to Armstrong
Nurseries, Inc., Ontario, Calif. A new and
distinct variety of plum tree of the Jap-
anese semifreestone type, characterized
particularly as to novelty by its vigorous
habit of growth; the roundness of its fruit;
the attractive and distinctive color of the
fruit skin; the firm, meaty, yellow flesh
of the fruit; the delectable flavor, and
the good eating and keeping qualities of
the fruit.No. 1483. Azalea plant. Lenard L.
Brooks, Modesto, Calif. A new and dis-
tinct variety of azalea plant of the Ku-
rume class, comprised of a cross between
the Kurume Azalea Hexe and the Bel-
gian Indica Azalea William Van Orange,
characterized particularly by its large,
invariably perfectly formed, hose-in-hose
flowers (bearing an undertone of orange);
by its ease of reproduction on its own
roots; by its high value as a greenhouse-
forcing or garden variety; by its much-
branched, compact habit of growth, and
by its large, glossy, deep green leaves.No. 1484. Azalea plant. Lenard L.
Brooks, Modesto, Calif. A new and dis-
tinct variety of azalea plant of the Ku-
rume class, comprised of a cross between
the Kurume Azalea Hexe and the Belgian
Indica Azalea William Van Orange, char-
acterized particularly by its beautiful,
orange-red, hose-in-hose flowers; by its
ease of reproduction on its own roots;
by its much-branched, compact habit of
growth; by its beautiful, dark green foli-
age, and by its high value as a greenhouse-
forcing or garden variety.No. 1485. Peach tree. Herbert C.
Swim, Ontario, Calif., assignor to Arm-
strong Nurseries, Inc., Ontario, Calif. A
new and distinct variety of peach tree
of the yellow-fleshed, freestone, fruit-
bearing type, characterized particularly as
to novelty by its vigorous and upright
growth; its relatively low winter-chilling
requirements and attendant high and reg-
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fore can be planted the year around.One of the leaders in canned stock
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SALEM, ORE.**CLARKE'S PANSY SEED**Produces superior plants in separate
colors and in mixture for your discrimi-
nating customers.**HIGHEST TEST GERMINATION**Write for
illustrated list.**THE CLARKES**

BOX 440-A

Clackamas, Oreg.

color, the blooms being borne from one to four flowers per node, with the nodes relatively closely spaced and giving a distinct ornamental appearance to the tree during the blooming period; its large, round fruit of relatively firm texture and consequent good handling qualities, and the delectable flavor of the fruit.

No. 1486. Rose plant. Milton L. Whisler, Granada Hills, Calif., assignor to Germain's, Inc., Van Nuys. A new and distinct variety of rose plant of the hybrid tea class, characterized particularly as to novelty by the vigorous, well-branched habit of growth of the plant; the deep glow of its flower petals and their good substance and texture, which give the bloom a long-lasting quality as a cut flower, and its habit of bearing the blooms singly on long cutting stems.

No. 1487. Rose plant. Milton L. Whisler, Granada Hills, Calif., assignor to Germain's, Inc., Van Nuys. A new and distinct variety of rose plant of the hybrid tea class, characterized particularly as to novelty by its tall, upright and vigorous habits of growth; its habit of bearing flowers singly on exceptionally long and stiff cutting stems, and its large, double flowers having the general coloration and aspect of the variety Dame Edith Helen (unpatented).

No. 1488. Verbena plant. Florence Clyde Chandler, Ardsley, N. Y., assignor to Boyce Thompson Institute for Plant Research, Yonkers. A new and distinct variety of purple verbena plant substantially as illustrated in plant patent No. 1333 and characterized particularly by large individual flowers that are uniformly purple in large clusters of many flowers, which are borne on stiff, erect and long stems; by large, deep green leaves, and by good vigor.

No. 1489. Rose plant. Francis Meiland, Cap Azura, Cap d'Antibes, Alps Maritime, France, assignor to Conard-Pyle Co., West Grove, Pa. A new and distinct variety of rose plant of the hybrid tea class, characterized particularly as to novelty by its vigorous habit of growth, abundant foliage and good resistance to black spot; by its large, full blooms of excellent form, and by the distinctive 2-toned color of its flowers, the petals of which are iridescent rose red on the inner surface and white suffused with pink on the reverse surface.

No. 1490. Rose plant. Herbert C. Swim, Ontario, Calif., assignor to Armstrong Nurseries, Inc., Ontario, Calif. A new and distinct variety of rose plant of a class falling between the hybrid tea and hybrid polyantha classes, characterized particularly as to novelty by its tall and rangy habit of growth, the relatively long and somewhat urn-shaped form of its buds, the medium size of its blooms, the many individual blooms borne on long flowering stems that often originate from a single basic stem, the abundance of its blooms throughout the growing season, the good petal substance and attendant lasting qualities of its blooms and the distinctive dark red general color tonality of its blooms.

No. 1491. Rose plant. Josephine D. Brownell, Little Compton, R. I. A new and distinct variety of rose plant characterized by its color pattern, fragrance, form and color of its wichuraiana traits.

No. 1492. Ajuga reptans plant. Clifford D. Corliss, Gloucester, Mass., assignor to Corliss Bros., Inc., Gloucester. The new and distinct variety of Ajuga

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We feel it a real privilege that so many nurserymen attending the convention in Los Angeles visited our "Tops in Roses" growing fields. We are glad you could come to the convention, visit our cities, nurseries and growing areas and invite you to come again at any time. Whenever you are in the area, we are pleased to be of service to you.

Ollie Weeks — Bob Reed



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ROSE GROWERS**

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ONTARIO, CALIF.



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PORTLAND 15, OREGON

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SHADE AND FLOWERING TREES
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FRUIT TREES
DECIDUOUS SHRUBS
VINES AND BULBS
PORTLAND ROSES
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reptans plant, characterized particularly by the low-growing habit and tendency to form low, dense mats; its vigorous growth; its production of a neatly rounded plant, and the distinctive, brilliant, varied and pleasing coloring of its leaves as described.

No. 1493. Rose plant. Gerrit de Ruiter, Hazerswoude, the Netherlands, assignor to Ilgenfritz Nurseries, Inc., Monroe, Mich. A new and distinct variety of rose plant of the hybrid tea class, characterized particularly as to novelty by its hardiness, its leathery and glossy foliage, the fullness and distinctive color of its blooms and their habit of holding

their color well and its good resistance to black spot and mildew.

RICHARD R. AVILA, San Jose, Calif., a nurseryman, was killed when the car he was driving smashed into a tree June 16.

VERANO NURSERY was recently opened by Henry Saruwatari and Frank Hitomi, at Garden Grove, Calif. The nursery handles supplies and offers landscape service.

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Rate: 35 cents per line, each insertion.

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Forms for September 15 issue will close Friday, August 31.

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AZALEA LINERS, DELIVERY NOW.
Out of 2-in. pots: Amoena coccinea, Coral Bella, Carmen, Delaware Valley White, hino-degiri, Herbert, Palestrina, Rose Bud and Snow.

In flats, 60 to a flat: Amoena coccinea, Coral Bella and hino-degiri.
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Thousands of beautiful Hino-Crimson and other evergreen Azaleas. Dense, bushy, well-budded—for landscape planting and forcing. Book your order now, to be sure of getting yours for next season, as there never are enough to meet the demand.

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Rooted cuttings, transplants, budded field-grown plants and mollis seedlings.

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RASPBERRY PLANTS

Place your orders now for fall or next spring deliveries.

The new Durham Everbearing and off-season red Raspberry, also Latham (mid-season), Gatteau (very early) and September Everbearing.

Prices on Durham, up to 3/16-in., \$55.00 per 1000; 3/16 to 1/4-in., \$65.00 per 1000; 1/4-in. up, \$75.00 per 1000.
Latham, Gatteau and September Everbearing, up to 1/4-in., \$65.00 per 1000; 1/4-in. up, \$75.00 per 1000.

New Amber yellow Raspberry, very sweet; medium size, \$75.00 per 1000; large, 1/4-in. up, \$95.00 per 1000.

All above priced F.O.B. No charge for packing.

WALTER K. MORSE & SON
Bradford, Mass.

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SNOWHILL STRAWBERRY NURSERY
Fred Leamon, Owner and Prop.,
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PACIFIC HYBRID DELPHINIUMS

Galahad, white; Blue Bird, dark blue; Summer Skies, light blue; King Arthur, purple, and mixed colors, \$11.00 per 100, \$100.00 per 1000. Pink Astolat, \$12.50 per 100. All from 2-in. pots. Excellent coldhouse stock. Ship now or later.

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POT-GROWN AND TRANSPLANTS

Sprayed with Parathion 3 times annually. Potted in special clay peat fertilizer mixture. Grown in open lath house or outside frames. No light, soft greenhouse-grown stock.

Each, 100 1000

Arborvitae, American, dark green, 1-yr., 6 to 7 ins. \$0.27 \$0.25

Arborvitae, globe woodwardi, 1-yr., 5 to 6 ins.27 .25

Arborvitae, pyramidalis, 1-yr., 5 to 6 ins.27 .25

Juniperus pfitzeriana armstrongi, 1-yr., 4 to 5 ins.27 .25

Juniperus chinensis pfitzeriana, 1-yr. pots, 6 to 7 ins.27 .25

Juniperus chinensis pfitzeriana, 2-yr. pots, 6 to 9 ins.34 .32

Juniperus glauca hetzi, 1-yr., 6 to 7 ins.27 .25

Taxus andersoni, 2-yr., 6 to 9 ins.34 .32

Taxus cuspidata, 2-yr., 6 to 9 ins.34 .32

Taxus media compacta, spreading, 2-yr., 6 to 9 ins.34 .32

Euonymus alatus compactus, 2-yr., 6 to 7 ins.22 .20

Korean Boxwood, 1-yr., 3 ins.22 .20

Viburnum, leather-leaved; 2-yr. 3 ins.37 .35

Viburnum burkwoodi, 1-yr., 4 to 5 ins.22 .20

HEAVY ROOTED CUTTINGS

From flats, growing outside in lath house.

Ready for delivery now.

These extra hardy, outside-grown cuttings can be potted any time, spring, summer, fall. No soft greenhouse-grown stock.

Boxwood, Korean, hardy, 3 ins. \$0.11 \$0.10

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Juniperus chinensis pfitzeriana, 6 to 7 ins.13 .12

Arborvitae, pyramidalis, 5 to 6 ins.13 .12

Arborvitae, globe, 4 to 6 ins.13 .12

Arborvitae, American, dark green; 5 to 6 ins.13 .12

Taxus hicksii, 5 ins.13 .12

Taxus intermedia, 3 to 4 ins.13 .12

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Terms: 2 per cent discount. PACKING AND BOXING FREE for cash with order. Our stock guaranteed 100 per cent satisfactory or return within 6 days for full refund, plus full shipping charges paid.

250 plants of each variety at 1000 rate.

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Globe Arborvitae, 15 to 18 ins. \$2.00

American Arborvitae, 3 to 3 1/2 ft. 2.75

Pyramidal Arborvitae, 3 1/2 to 4 ft. 3.00

Golden Biota, 18 to 24 ins. 2.25

Hex Rotundifolia, 18 to 24 ins. 3.25

Pfitzer Juniper, 18 to 24 ins. 2.00

Armstrong Pfitzer, 15 to 18 ins. 2.75

Compact Pfitzer, 18 to 24 ins. 2.50

Hetz Glauca Juniper, 18 to 24 ins. 2.25

Taxus, Andersoni and Hicksii, 18 to 24 ins. 4.00

Choice shrubs (B&B) from 18 to 24 ins. 1.75

Quality stock well trimmed and carefully grown. Write for complete list.

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ANDORRA JUNIPER LINERS

Field-grown, 8 to 12, T. \$17.00 \$165.00

We have only a few thousand to offer this fall.

WHERRY'S NURSERIES, St. Marys, W. Va.

TAXUS CAPITATA

Strong 2-yr. seedlings, seeds sown lightly, plants grown with plenty of room in beds.

\$15.00 per 100, \$125.00 per 1000.

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Newport, R. I.

FALL 1956, SPRING 1957 LINERS FOR FIELD

	Per 100	Per 1000
1-yr. transplants		
2000 Taxus hicksii	\$0.22	\$0.20
1000 Taxus capitata C.	.28	.25
2-yr. transplants		
1000 Juniper, Andorra	.28	.25
4000 Taxus cuspidata	.30	.28
5000 Taxus hicksii	.30	.28
3-yr. transplants		
2000 Taxus capitata C.	.45	.40
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Free boxing.

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Finished stock in salesyard and landscape sizes. 30 acres of general nursery stock, Junipers (22 varieties), Arborvitae, Spruce and Pine. Broadleaf Evergreens in Euonymus, Japanese and American Holly, Julianae and Mentor Barberry. Lot of Redbud, Dogwood, clump Birch and shade trees. Thousands of flowering shrubs in variety and sizes. We extend you a special invitation to come and select your needs at prices you can afford to pay.

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(Andromeda)

Fall, 1956

100 1000

2-yr. peat bed, 4 to 6 ins. \$30 \$250

TT. 15 200

2-yr. peat bed, 3 to 4 ins. 15 200

(These plants are well branched with 2 to 5 leaders.)

1-yr., branched, T. 10 90

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4500 Scotch Pine trees, 5 to 8 ft.

These are sheared and are good color.

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To sell B&B.

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400 4 to 7 ft.

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Each

400 Andorra Juniper, 18 to 24 ins. \$2.25

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300 Am. Arborvitae, 4 to 5 ft. 3.25

1000 Hetz glauca Juniper, 18 to 24 ins. 2.25

These are nice. Come and see them. Order early, please.

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500 4 to 8 ft., well-branched; high percentage of blues. Many "shiners." Trans-

planted 3 to 4 times. You dig them. Row-

run from \$4.00 to \$6.00 per tree per row.

Also 350 Black Hills Spruce, priced right.

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Per 100 Per 1000

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Seedlings, 1 to 2 ins. 6.00 50.00

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Out of 2-in. pots, \$17.50 per 100, \$150.00 per 1000. F.O.B. Elizabeth, N. J.

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CRAB APPLE AND FLOWERING PEACH LINERS ARE SCARCE ITEMS.

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Per 105	Per 210
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Mixed seeds, with cultural instructions, 75c for \$1.00.	...

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(Periwinkle, running Myrtle)
Tops in ground cover. Fresh, hand-clumped, 15 to 25 canes. Shipped in sphagnum and ventilated cartons, \$50.00 per 1000.
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Husky, bare-root, \$55.00 per 1000.
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Clumps, 10 to 20 leads 6.00	50.00

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Since 1915

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IRISES

Healthy field-grown plants

Iris sibirica: Per 100

Caesar's Brother, purple \$18.00

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25 of one variety at the 100 rate; 250 at the 1000 rate. Send for our catalog.

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Berkeley Gold, Elsa Sass, Frieda Mohr, Calif. Gold, Master Charles, Pink Satin, Tiffania, \$1.50 per 10, \$10.00 per 100. Azure Skies, Blue Rhythm, Copper Lustre, City of Lincoln, Elinor, Golden Spike, Great Lakes, Lady Mohr, Los Angeles, Ole Kala, Painted Desert, Snow Flurry, Prairie Sunset, Red Dominion, Rocket, Spun Gold, The Admiral, Wabash, \$1.75 per 10, \$12.00 per 100. Blue Shimmer, Bryce Canyon, Cascade Splendor, Dabrock, Desert Song, Mulberry Rose, \$2.00 per 10, \$15.00 per 100, \$5 at 10 rate, 25 at 100 rate. Send for list.

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BALTIMO IVY

Hardest Ivy. Fine for wall or ground cover. True stock. Well-rooted plants. Delivery now or later. 25 per cent down to reserve. Rooted cuttings, \$6.50 per 100, \$60.00 per 1000, 2-in. pots, \$12.00 per 100, \$110.00 per 1000.

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HEDERA HELIX (ENGLISH)

Per 100 Per 1000

2 1/2-in. pots, 2 per pot \$12.80 \$110.00

Rooted cuttings 5.00 45.00

HEDERA HELIX GRACILIS (BALTIMO)

2-in. pots 15.00 135.00

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POT-GROWN LINERS

FOR CANNING THIS SUMMER.

Aronia arbutifolia, 2 1/2-in. 12 1/2c

Calycanthus floridus, 2 1/2-in. 12 1/2c

CEDRUS DEODARA, 2 1/2-in. 15c

Eriogonum grandiflorum, 2 1/2-in. 12 1/2c

ILEX CORNUTA BURGARDI, 2 1/2-in. 15c

I. OPACA EAST PALATKA, 2 1/2-in. 15c

KORLEUTERIA PANICULATA

(Golden Rain Tree), 2 1/2-in. 15c

LONICERA NITIDA (Box

Honeysuckle) (August), 2 1/2-in. 15c

PITTSBORUM TOBIRA (August),

2 1/2-in. 15c

Redbud (Eastern or Chinese), 2 1/2-in. 15c

RHAMNUS ALATERNUS (Italian

Buckthorn) (August), 2 1/2-in. 15c

Ulmus pumila (Chinese or

Siberian Elm), 2 1/2-in. 15c

Ready now except where August delivery

shown. We feel the items in capitals are

extremely good. Shipped in paper cups and

no packing charges. Minimums: 25 one

variety; 100 total orders. R. A. Albany, Ga.

PATTERSON NURSERY, R. 4 Albany, Ga.

Phone HENlock 2-1459.

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Per 100 Per 1000

Taxus capitata, 1-yr. S. \$ 5.00 \$40.00

transplants, 1-yr. S. 6.00 50.00

2-yr. S. 10.00 90.00

Pot-grown grafts, shipping now. Per 100

Acer polymorphum atropurpureum ... \$75.00

Betula lacinata (Cutleaf Birch) 60.00

Hamamelis mollis 50.00

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Viburnum juddii 50.00

Viburnum burkwoodii 50.00

Special prices on large quantities.

VERKADE'S NURSERIES, Wayne, N. J.

EVERGREENS

Blue Hetz Juniper, 6 to 8 in., bare-

root \$0.07

Pfitzer Juniper, 6 to 8 in. bands, 14 1/2

BROADLEAF, BARE-ROOT

Euonymus coloratus, 6 to 10 ins.03 1/2

DECIDUOUS, BARE-ROOT

Porsythia Lynwood Gold, 6 to 10 ins.,04

Porsythia Spring Glory, 6 to 10 ins.,05

Honeysuckle Zabel, 8 to 10 ins.,05

Blue Spiraea (Caryopteris), 8 to 10 ins.,03 1/2

All prices at 300 or more. Total order less

than 300, add 2c per plant.

McNINCH GREENHOUSES

St. Joseph, Mo.

LINING-OUT STOCK

Each 100 1000

Hex convexa, 6 to 8 ins. \$0.30 \$0.25

Hex hetzi, 8 to 12 ins.40 .35

Hex rotundifolia, 6 to 8 ins.30 .25

Hex rotundifolia, 8 to 12 ins.40 .35

Grown 2 years in beds, 8 to 8 ins. ap.

The larger size makes ideal plants for gallon

cans and direct sales.

Pieris japonica, 6 to 9 ins. \$0.30 \$0.25

GERALD K. KLYN, INC., MENTOR, O.

Wholesale Rose Growers and Nurserymen

FINER LINERS OF ORNAMENTALS

To buy the best is not only good business—it's thrifty. FINER LINERS are best for many reasons. Send for your free copy of our current catalog of ornamental aristo-

crats, featuring Acer to Viburnum.

JOHN VERMEULEN & SON, INC.

Dept. AN 17 Neshanic Station, N. J.

PACHYSANDRAS

PACHYSANDRAS

Out of 2-in. pots, \$12.00 per 100, \$100.00

per 1000, F.O.B. Elizabeth, N. J.

DELAWARE VALLEY NURSERY

948 N. Broad St. Elizabeth, N. J.

PEONIES

PAEONIA TENUIFOLIA

Fine cut double deep red, Fern-leaved Peony, \$3.50 per large division; in doz. lot, \$25.00; 25 or more, \$2.00 per division.

WM. SLAICHERT HOME NURSERY

St. Ansgar, Ia.

PEONY CLUMPS

2500 Edulis superba, 4 years old; quality

roots. Best offer. Fall or spring delivery.

HOLM'S LANDSCAPE NURSERY

Phone Homewood 56W Homewood, Ill.

Peonies, Edulis superba, large, early pink; large 3 to 5-eye divisions, from 3-yr.-old

block, \$30.00 per 100, F.O.B. here.

Gilbertson Nursery, Kindred, N. D.

PEONIES—Continued

PEONIES
Strong 3 to 5-eye divisions from young plants. Deliveries beginning August 15. Packing free for cash with order, otherwise at cost.

	10	100	1000
Baroness Schroeder, flesh-pink	\$4.00	\$35	\$1000
Canari, sulphur-white	4.00	35	325
Duch, de Nemours, ivory-white	5.00	40	375
Duch, Orleans, soft pink	3.00	25	225
Due de Wellington, pure white	3.50	30	275
Edulis superba, deep pink	3.00	25	225
Felix Crousse, ruby-red	4.00	35	350
Festiva maxima, white	5.00	38	350
Francis Ortega, crimson	4.00	30	275
Karl Rosefield, dark crimson	5.00	40	375
Lillian Wild, flesh to white	6.00	40	400
Marie Jacquen, semi-dbl, white	5.00	45	450
Mary Brand, crimson	7.00	60	...
Mme. de Verneville, white	4.00	35	325
Modeste Guerin, deep	...	...	...
carmine-pink	5.00	40	375
Mons. Jules Elie, pink	5.00	40	375
Officialis rubra, early red	6.00	50	...
Ozark Beauty, late deep pink	5.00	40	375
Queen Emma, silvery pink	4.00	30	275
Queen Victoria, white	3.50	30	275
Sarah Bernhardt, light pink	4.00	35	350
Venus, hydrangea-pink	4.00	35	...
Mixed Peonies, grown mixed	2.50	20	200
Pink Peonies, not named	2.75	25	250
White Peonies, not named	2.50	25	250
Red Peonies, not named	2.75	25	250

JAPANESE PEONIES

	10	100
Dr. Jekyll, dark red	\$7.50	\$60
Nixon, rose-pink	7.50	60
Nippon Splendor, tall dark red	6.00	50
Prairie Afire, pink guards, red	...	...
petaloides	7.50	60

PEONY LINERS

2 to 3-eye divisions, 25 per cent off the 3 to 5-eye price; 1 to 2-eye divisions, 50 per cent off the 2 to 5-eye price.
5 of a variety at 10 rate; 25 of a variety at 100 rate; 250 of a variety at the 1000 rate.
We grow many additional varieties of Peonies. Send us a list of your additional requirements for quotation. Iris and Day Lily list on request.

SARCOXIE NURSERIES PEONY FIELDS
Wild Bros. Nursery Co.
Phone 43 Sarcosie, Mo.

SURPLUS RED JAPANESE PEONIES

We are offering them in clumps that will divide to 5 or more standard divisions or will make twice that many liners. This stock has been well grown by us. They are the top rated red Japs today.

No. clumps and variety	per clump	Priced
1000 Nippon Beauty	...	\$0.60
900 Sword Dance60
800 Nippon Brilliant60
200 Fujiyama60
125 Sochi60
100 Inst. Doriati60

We will dig them and you bring truck and get them at this low price. Reserve yours now. They will be available August 25.

EAGLE GARDENS, EAGLE GROVE, IA.

PEONY SPECIAL

	100	25
Karl Rosefield	\$23.00	\$ 8.25
Felix Crousse	28.00	8.25
Frances Willard	35.00	10.00
Mons. Martin Cahuzac	60.00	17.00
Double Pink or Red	...	...
(not named)	20.00	...

3 to 5 eye divisions from 3-yr. plants, can ship September 1. Sent express, cash with order, packing free.

HANSON'S EVERGREEN NURSERIES
Box 582 Anoka, Minn.

POPPIES

	10	100
Barr's White	\$2.50	\$20.00
Bolder Beauty, dbl, dark red	2.50	20.00
Buckeye Red	2.50	20.00
Carmen, dark cardinal-red	6.50	55.00
Carnival, upper half, nasturtium-red, lower half white	6.50	55.00
Cavalier, deep scarlet-red	2.50	20.00
Curtis Giant Flame	3.00	25.00
Curtis Giant Flesh Pink	2.50	20.00
Curtis Giant Salmon Pink	2.50	20.00
Joyce, cherry-red	2.00	17.50
May Curtis, watermelon-red	6.00	50.00
Mrs. Perry, orange-apricot	2.00	17.50
Perry's White	2.50	20.00
Raspberry Queen, crushed black raspberry	3.50	30.00
Salmon Glow, dbl, sal-orange	2.50	20.00
Sweetheart, strawberry-pink	5.00	40.00
Watermelon	3.00	25.00

Field-grown in clay soil, free from crown rot. 25 plants at 100 rate.

LOUIS COLAVECHIO NURSERY
1487 North Ridge Rd. Painesville, O.
ORIENTAL POPIES
Strong, true-to-name, field-grown roots. Well grown for complete list.
FLOR-ACRES, BRIDGMAN, MICH.

POPIES, ORIENTAL
Strong field-grown plants

	Per 100	Per 1000
Barr's White	\$25.00	\$250.00
Beauty of Livermore	20.00	190.00
Col. Bowie	35.00	325.00
Crimson Pompon	25.00	250.00
Curtis Giant Mahogany	22.50	210.00
Curtis Giant Salmon-Pink	22.50	210.00
Helen Elizabeth	20.00	190.00
Henri Cayeux Imp.	20.00	190.00
Mary Sadler	20.00	190.00
Mrs. Perry	20.00	190.00
Orange Perfection	18.00	...
Oriental	18.00	175.00
Pink Radiance	20.00	190.00
Salmon Glow	20.00	190.00
Sass Pink	20.00	190.00
Wurtembergia	22.50	210.00

25 of one variety at the 100 rate or 250 at the 1000 rate. Send for our catalog.

SPRINGBROOK GARDENS
Dept. A-6 Mentor, O.

ORIENTAL POPIES

	Per 10	Per 100
Barr's White, large white	\$3.50	\$30.00
Crimson Pompon, double red	3.00	25.00
Henri Cayeux Improved, old rose shaded burgundy	3.00	25.00
Helen Elizabeth, salmon-pink; no spots	2.50	20.00
Mrs. Perry, salmon-pink with black spots	2.50	20.00
Joyce, cerise-rose	2.75	22.50
Salmon Glow, double salmon-orange	2.50	20.00
Watermelon, watermelon color	2.50	20.00

Transplanted, blooming size, \$15.00 per 100. 25 at 100 rate. Cash with order or C.O.D.

RIDENOUR'S FLOWER FARM
1024 Chicago Rd., Allen, Mich.

ORIENTAL POPIES

	Per 10	Per 100
Curtis Giant Flesh-Pink	\$3.50	\$30.00
Curtis Giant Mahogany	3.00	25.00
Curtis Giant Salmon-Pink	3.00	25.00
Gold of Ophir	3.00	25.00
Henri Cayeux Improved	2.50	20.00
Lachs Koening	2.50	20.00
Mrs. Perry	2.75	22.50
Purity	2.50	20.00
Royal	3.00	25.00
Salmon Glow	3.00	25.00
Toreador	3.50	30.00

THE JOSEPH F. MARTIN CO., INC.
Painesville, O.

PRIVET

	100	1000
Amur River North Privet	100	1000
18 to 24 ins.	\$3.00	\$25.00
2 to 3 ft.	4.00	30.00
3 to 4 ft.	5.00	40.00

Planters Nursery, Mrs. R. F. Terrell, Prop., Greenville, Ga.

RHODODENDRONS

RHODODENDRONS
For immediate shipment. Unnamed hybrids of hardy ponticum, catawbiense par-bell, twice transplanted, bed-grown.
4 to 6 ins., 20c each; approx. 25 lbs. per crate. 50 plants per crate. Order by crate only. 500 or more of a size, 10 per cent discount. Lightweight, expert, frost-proofed crating free. Cash with order.

RICHARD P. RESSEL NURSERY
Molino, Ore.

ROSEBUSHES

FIELD-GROWN ROSEBUSHES
FINEST QUALITY
Hybrid Teas, Floribundas, Polyanthas and Climbers.
Price and variety list on request.
WELLS BROS. NURSERY
Box 625 Lindale, Tex.

For \$3.50

you can offer that surplus in a classified ad of 10 lines on these pages—quickly and easily turning stock into cash.

AT 35c PER LINE

you can keep a list of specialty items before trade buyers through the selling season at small cost.

Send your copy (count 6 average words to line) for the September 1 issue to reach us by August 10.

Forms for September 15 issue will close Friday, August 31.

AMERICAN NURSERYMAN
343 S. Dearborn St. CHICAGO 4, ILL.

SEEDS

LAWN SEED

Wholesale prices. F.O.B. NEW YORK.
Landscape Gardeners' Mixture \$27.00 50 lbs. 100 lbs.
Cemetery Mixture 30.00 50 lbs. 100 lbs.
Athletic Field Mixture 23.00 50 lbs. 100 lbs.
Shady Mixture 24.00 50 lbs. 100 lbs.
Orders totaling 300 lbs. or more shipped freight paid. Write for complete list showing contents of above and other formulas and current prices for individual grasses.

HERBST BROTHERS

SEEDSMEN, INC.

678 Broadway New York 12, N. Y.

LAWN SEED MIXTURES, IN BULK

CENTRAL PARK, prime mixture for quick green cover, 100 lbs. \$35.00.
LAWNMAKER, our leader for sun or shade, 100 lbs. \$30.00; 25 lbs. \$24.00.

LONG ISLAND FORMULA

\$69.00; 25 lbs. \$18.50.

STATE FORMULA OF N. J.

No. 1, 100 lbs. \$98.00; 25 lbs. \$26.00.

J. S. GROSS & CO.

Cherry Lane Ht. 4-4533 Huntington, N. Y.

HARDY MYRTLE (VINCA MINOR) SEEDS
New worthwhile plants come from our seeds. We have some beauties grown from our seeds. 50 seeds for \$1.00. Growing instructions included. Sow any time.

SILVER SEEDS (2), White Pigeon, Mich.

SHRUBS AND TREES

POTTED GRAFTS, 1-YR.

	Per 100	Per 1000
Acer palmatum atropurpureum	\$7.50	...
Fagus sylvatica asplenifolia	75.00	...
Fagus sylvatica pendula	75.00	...
Fagus sylvatica fastigiata	75.00	...
Fagus sylvatica riversi	75.00	...
Picea pungens moenchii	125.00	...
Picea pungens kosteriana	125.00	...

ROOTED CUTTINGS, 1-YR. BEHEP

	Per 100	Per 1000
Buxus sempervirens, 4 to 6 ins.	\$10.00	\$ 90.00
Ilex bullata, 4 to 6 ins.	10.00	90.00
Ilex crenata, 5 to 8 ins.	10.00	90.00
Ilex rotundifolia, 5 to 8 ins.	12.00	100.00
Juniper, Andorra, 4 to 8 ins.	10.00	90.00
Juniper, hibernica, 5 to 8 ins.	10.00	90.00
Juniper, Hetz, 4 to 8 ins.	12.00	100.00
Juniper, Pfitzer, 4 to 6 ins.	12.00	100.00
Ilex glabra, 4 to 6 ins.	10.00	90.00
Pachysandra	4.00	35.00
Pyracantha lalandi, potted	15.00	...
Retinospora plumosa aurea	10.00	90.00
Retinospora plumosa, 6 to 8 ins.	10.00	90.00
Taxus brevifolia, 4 to 6 ins.	10.00	90.00
Taxus browni, 4 to 6 ins.	12.00	100.00
Taxus capitata, tips, 6 to 8 ins.	15.00	...
Taxus compacta, 4 to 6 ins.	15.00	125.00
Taxus cuspidata, 4 to 6 ins.	10.00	90.00
Taxus hatfieldi, 4 to 6 ins.	10.00	90.00
Taxus hickii, 4 to 6 ins.	10.00	90.00
Taxus ovata, 4 to 6 ins.	15.00	125.00
Taxus repandens, 4 to 6 ins.	12.00	...
Thuja globosa	10.00	90.00
Thuja nigra, 5 to 8 ins.	10.00	90.00
Thuja vernaena, 5 to 8 ins.	10.00	90.00

1-YR. SEEDLINGS

	Per 100	Per 1000
Cornus florida	\$5.00	\$40.00
Chinese Chestnut	8.00	70.00
Taxus capitata	5.00	40.00
Taxus capitata, transplants	6.00	50.00

2-YR. SEEDLINGS

	Per 100	Per 1000
Acer palmatum	\$6.00	\$50.00
Balsam Fir, 3 to 5 ins.	4.00	35.00
Picea excelsa, 4 to 6 ins.	3.50	25.00
Picea pungens glauca, 3 to 5 ins.	4.00	35.00
Picea White Spruce, 4 to 6 ins.	3.50	25.00
Pinus strobus, 4 to 6 ins.	3.50	25.00
Pinus sylvestris, 4 to 6 ins.	3.50	25.00
Thuja occidentalis, 4 to 6 ins.	5.00	40.00
Thuja orientalis, 4 to 8 ins.	3.50	30.00
Tsuga canadensis, 3 to 4 ins.	6.00	50.00
Taxus capitata, 4 to 6 ins.	7.00	60.00
Ilex crenata, 4 to 6 ins.	5.00	40.00

3-YR. SEEDLINGS, TRANSPLANTED

	Per 100	Per 1000
Taxus capitata, 4 to 8 ins.	\$12.00	\$100.00
Pinus mugo Tyrolean	8.00	...
Tsuga canadensis, 4 to 7 ins.	8.00	70.00
Douglas Fir, 5 to 8 ins.	7.00	50.00
Euonymus alatus	6.00	45.00

AZALEAS, 3-YR. TRANSPLANTS

	Per 100	Per 1000
Hino-Crimson	\$10.00	...
Hindogiri	10.00	...

4-YR. TRANSPLANTS

	Per 100	Per 1000
Douglas Fir, 6 to 12 ins.	\$10.00	...
Picea excelsa, 6 to 8 ins.	6.00	\$ 50.00
Picea excelsa, 10 to 15 ins.	15.00	140.00
Picea pungens glauca, 4 to 8 ins.	7.00	60.00
Picea White Spruce, 6 to 8 ins.	6.00	50.00
Picea rubens, 6 to 8 ins.	12.00	...
Tsuga canadensis, 5 to 8 ins.	10.00	95.00
Tsuga canadensis, 8 to 10 ins.	15.00	140.00
Tsuga canadensis, 10 to 12 ins.	20.00	190.00
Tsuga caroliniana, 6 to 8 ins.	10.00	...

VAN DINE NURSERY

Berdan Ave. Preakness, Paterson, N. J.
Cornus Fla. (white-flowering Dogwood)
2 to 3 ft. \$20.00 per 100; \$150.00 per 1000
3 to 4 ft. 25.00 per 100; 200.00 per 1000
Planters Nursery, Mrs. R. F. Terrell, Prop., Greenville, Ga.

HOLLY

flex aquifolium, variegated,
6 to 12 ins., 2 1/2-in. pots, 35c.

JUNIPERS

Heitz glauca, 12 ins., 17 1/2c
Pfitzer, 12 ins., 17 1/2c
Elwood, 10 to 12 ins., 17 1/2c
Stewart, golden, 12 ins., 17 1/2c

CEANTHUS IMPRESSUS

12 to 14 ins., 3-in. pot size, 25c.
OSMANTHUS ILICIFOLIUS VAR.

4-in. pot size; light, 50c; heavy, 60c.
Cash with order, no charge for packing.

KRUSCHKE GREENHOUSES

Clackamas, Ore.

DOGWOOD, WHITE-FLOWERING, B&B

Each
200 3 to 4 ft. \$2.50
300 4 to 5 ft. 3.00
400 5 to 6 ft. 3.50
500 6 to 7 ft. 5.00
600 7 to 8 ft. 11.00

These are select, nursery-grown, root and
top pruned. We invite you to come and see
them. Phone 395.

WHERRY'S NURSERIES, St. Marys, W. Va.

PHILADELPHUS AUREUS

Ready for immediate shipment.

Per 100 Per 1000
2-in. pots \$2.50 \$200.00
250 at 1000 rate

Write for complete price list including 20
varieties of Oriental Poppies, available for
August 10 delivery.

LOUIS COLA VECCHIO NURSERY

1487 N. Ridge Rd. Painesville, O.

WE ARE CLOSING OUT SOME OF OUR
NURSERIES AND OFFER FOLLOWING:

10,000 18 to 36-in. Hetz and Pfitzer Juniper,
also Arborvitae, Greek and Irish Juniper,
Euonymus, Pine, shade trees, red Barberry
and a nice selection of shrubs. Heavily
sheared and full. Priced from 50c up.

Free list. Write for same.

F & W EVERGREEN NURSERY

Box 708, Fairfield Rd. Mt. Vernon, Ill.

Junipers, Pfitzer's, Baker's, Greek,
2 1/2-in. 100, \$15.00

Euonymus, 2 varieties; 3-in. 100, 15.00

Cherry Laurel, 3-in. 100, 20.00

Euphorbia (Crown of Thorns), 2 1/2-in. 20.00

Rhoeo (Moses in Boat), 2 1/2-in. 100, 20.00

Pedicularis, 2 1/2-in., will make
hundreds of good cuttings. 100, 15.00

List of other liners ready September.

Escott's Fort Smith, Ark.

LINING-OUT STOCK

Per 100
Euonymus alatus, 8 to 10 ins. \$20.00

Euonymus alatus compactus.
8 to 10 ins. 20.00

Spiraea Anthony Waterer, transplants,
6 to 8 ins. 15.00

List of other liners ready September.

JOHN BOS NURSERY, Clyde, O.

RED BARBERY

(Berberis atropurpurea)

STRONG, BUSHY, WELL-BRANCHED
PLANTS.

15 to 18 ins. \$25.00 per 100

18 to 24 ins. 30.00 per 100

SPECIAL PRICES ON QUANTITIES.

SPRINGBROOK GARDENS

Dept. A Mentor, O.

COLLECTED ACER

RUBRUM AND SACCHARINUM,
from whips to 4-in. caliper.

CURTIS NURSERIES, INC.
Callicoon, N. Y.

Turn Stock into Dollars

by Listing It in the Classified Ads
of the American Nurseryman.

VINES

CLEMATIS VINES

Jackman, Ernest Markham and all popular
varieties. Various sizes. Fall or spring
delivery. Write for quotations.

D. S. GEORGE NURSERIES

Phone: Fairport 913-F-6 Fairport, N. Y.

MISCELLANEOUS

ASPARAGUS ROOTS

Martha Washington, 2-yr., \$15.00 per 1000.

CONCORD GRAPES

2-yr., No. 1, \$10.00 per 100.

Write for quotations of large fruit trees
and berry plants.

BASHAM NURSERY, Mountainburg, Ark.

Phone 2F11

Check Your Stock NOW!

If you have a surplus

Sell it through the

American Nurseryman Classified Ads.

WANTED

WANTED

We need the following items for fall
planting on a government job. Anyone having
these items, please state quantity and
price or substitution.

8 Ohio Buckeye, 1 1/2 to 2-in. cal., BR.

23 Burr Oak, 1 1/2 to 2-in. cal., B&B.

3 Amun Lilac, 3 to 4 ft., BR.

67 Douglas Fir, 5 to 6 ft., B&B.

YORK GARDEN SHOP & NURSERY

P. O. Box 29 York, Neb.

CHRISTMAS TREES WANTED

Need good Norway and Blue Spruce, B&B
and cut. Also want sheared or No. 1 Scotch
Pines, Douglas Firs and Balsams, from 5 1/2
to 9 ft., in truckloads.

Joe Sampliner, Broker

LORAIN GARDEN SUPPLY CO.

7982 Lorain Ave. Cleveland 2, O.

Days: Melrose 1-3144; Eves.: Olympic 1-1744

WANTED

AZALEAS.

LEY BROS.

La Plata, Md.

Small Ads Do Great Things in the
American Nurseryman Classified Section.

SUPPLIES AND SERVICES

FERTILIZERS

SOLUBLE FERTILIZERS

PETERS SPECIAL, 20-20-20, general purpose
feed.

PETERS SPECIAL, 21-7-7, chelate iron,
Azalea neutral.

PETERS SPECIAL, 21-7-7, chelate iron,
Azalea acid.

\$6.50 per 25-lb. bag, \$22.00 per 100 lbs.

F.O.B. Allentown, Pa.

ROBERT B. PETERS CO.

739 N. 7th St. Allentown, Pa.

FLATS

MINNESOTA WHITE CEDAR FLATS

Order by No. Wt. Price

No. 1, 14x20x3 320 \$25.00

No. 2, 14x20x3 400 29.00

No. 3, 12x16x3 260 19.00

No. 4, 12x16x3 275 22.50

No. 5, 14x16x3 275 21.50

No. 6, 14x16x3 290 25.50

No. 7, 15x22x3 280 25.00

No. 8, 15x22x3 425 33.00

No. 9, 11 1/4 x 22 1/2 x 3 320 23.00

No. 10, 11 1/4 x 22 1/2 x 3 400 26.75

No. 11, 14x16x5 450 30.00

No. 12, 5x11x5 160 16.00

No. 13, 5x11x5 215 18.50

Plant boxes, 6x8 1/2 x 2 1/2 45 5.00

All other sizes quoted on request.

5 per cent discount on order of 1000 or
more.

The above measurements are inside. Bottoms
and sides of cedar flats are 3/4-in. thick;
ends are 1/2-in. Plant boxes are thinner.

All material surfaced on one side.

Your name and address printed up to 3
lines in black ink, on one or both end pieces
at the following rates: Set-up charge, \$1.00,
plus 1/2c per piece for the first 1000 ends, 1/2c
per end thereafter. Shipped knocked-down
in units of 25.

All shipments by truck unless otherwise
ordered. F.O.B. Cook, Minn. Attach check.

H. C. HILL & SONS, Cook, Minn.

PRESERVATIVE TREATED FLATS

Made from a good grade of southern Pine,
dipped in "Rot Not" wood preserver for
longer life.

Standard specifications, inside measurements.

14x12x3 \$21.16 20 x14x3 \$32.25

16x12x3 25.10 22 x15x3 31.65

20x14x3 27.63 22 x15x3 36.70

Plant boxes, 15x5x5, \$20.00. Sides and bot-
toms of masonite. All prices per 100. Other
sizes quoted on request. Priced F.O.B. Bir-
mingham, Ala. We are manufacturers, not
jobbers. Our quality guaranteed. Prompt
shipments on any quantity. Mixed shipments
of flats, plant boxes and spray boards. Write
for our price list on these items. Attach
check.

HIGHTOWER BOX & TANK CO.

P. O. Box 1449 Birmingham, Ala.

REDWOOD FLATS, K. D.

Finest stock obtainable. Guaranteed all
clear heart. Size 20x15x3 ins. inside measure.
\$38.00 per 100.

1x1-in. Cypress stakes, pointed.

50 pcs. to bundle, 4 ft., \$3.50 per bd.

50 pcs. to bundle, 5 ft., \$4.50 per bd.

50 pcs. to bundle, 6 ft., \$5.50 per bd.

Ship same day. Cash with order, please.

YOHO & HOOKER, Youngstown 2, O.

LABELS

DAHLIA OR TREE LABELS

3 1/4 x 5 ins., notched (not wired) Plain Painted \$2.50

3 1/4 x 5 ins., wired (copper) 3.30

4 x 5 ins. (cartons 1000 each) 3.30 3.95

5 x 5 ins. (cartons 1000 each) 3.60 4.30

6 x 5 ins. (cartons 1000 each) 3.80 4.85

8 x 5 ins. (cartons 500 each) 6.00 7.25

10 x 5 ins. (cartons 500 each) 7.00 8.50

GARDEN STAKES

Price per carton

8 x 1/2 ins. (cartons 250 each) 2.50 3.00

10 x 1/2 ins. (cartons 250 each) 2.75 3.25

12 x 1/2 ins. (cartons 100 each) 1.75 2.00

EVERMARK PENCILS

The original label marker. 1 doz. 7-in.
pencils per box, \$1.25.

Our labels are perfectly white and smooth
on both sides and are pronounced by growers
the best and most economical.

"We ship the same day."

YOHO & HOOKER

Youngstown 2, O.

Surplus Stock

can be easily and quickly turned into
Cash

by listing it in the

American Nurseryman Classified Ads.

ORCHID SUPPLIES

OSMUNDA, mixed. Bu., \$2.00. Prof. bag,
\$1.00. Standard bale, f.o.b. Houston, \$11.00;

2 for \$21.00. Standard bale, f.o.b. Florida,
\$8.00; 2 for \$15.00.

DETEX, a safe DDT spray. Qt., \$3.50;

gal., \$11.00

WALL TYPE POT HANGERS, hold up to
4-in. pots. Rust-resistant. Space savers.

Each, 25c; doz., \$2.75; 50, \$10.00; 100,
\$18.50.

BACTO ORCHID AGAR (Difco). 1/4 lb.,
\$3.95; 1 lb., \$14.00.

SHREDDED WAX PAPER, protect your
blooms and plants when packing and ship-
ping. Lb., 65c; 10 lbs., \$5.50.

PRICED F.O.B. Subject to change with-
out notice.

WRIGHTWOOD FLORAL CO., INC.

2407 N. Main St. Houston 9, Tex.

PEAT MOSS

HOLLAND PEAT MOSS

"BRODLEAF" quality. Just arrived.

Standard burlapped bales,

\$3.65 each; 10, \$34.25.

Priced F.O.B. Houston.

WRIGHTWOOD FLORAL CO., INC.

2407 N. Main St. Houston 9, Tex.

PLANT TIES

THE NEW FADE-PROOF

QWIK-TIES

Now made of colorfast plastic for the
florist trade.

Semi-invisible, economical, easy to use.

Packed in cartons of 10,000 Per carton

4-in. \$10.00

8-in. 18.00

12-in. 27.00

Postage paid when cash with order.

Carton lots

McHUTCHISON & CO.

695 Grand Ave. Ridgeland, N. J.

Phone Whitney 3-2230

PLANT TUBS

UTILITY PLANT TUBS

Made from New England White Pine

F.O.B. F.O.B.

STAINED GREEN New Hampshire Chicago

Top dia. Depth Per 100 Per 1000

7-in. 7-in. \$ 87.50 \$ 97.50

8-in. 5-in. 82.50 90.00

8 1/2-in. 6 1/2-in. 85.00 92.50

8-in. 6-in. 90.00 97.50

9-in. 6-in. 87.50 95.00

9-in. 9-in. 95.00 105.00

10 1/2-in. 6 1/2-in. 95.00 105.00

10-in. 9-in. 102.50 117.50

11-in. 7-in. 95.00 110.00

12-in. 7-in. 102.50 127.50

12-in. 9-in. 125.00 145.00

12-in. 11-in. 160.00 180.00

14-in. 8-in. 165.00 185.00

14-in. 13-in. 190.00 210.00

ABOVE PRICES APPLY ALSO ON QUAN-
TITIES LESS THAN 100. MINIMUM OR-
DER, 8 tubs of any one size.

ALEC HENDERSON, INC.

1305 W. Randolph St. Chicago 7, Ill.

Phone Monroe 6-3082

PLASTIC FILM

POLYETHYLENE FILM

2 mil. in 200 ft. rolls, 36 ins. wide, \$6.18;

54 ins. wide, \$9.25; 108 ins. wide, \$18.45.

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SPHAGNUM MOSS

1956 CROP NO. 1 SPHAGNUM MOSS
Large burlap bales, long fibered, clean,
firmly packed; bale, \$1.25. Quantity prices.
JOSEPH JAMROS, CITY POINT, WIS.

Long-fibered sphagnum moss, also ground
moss. Price up on truckloads delivered.
Warrens Moss Co., Warrens, Wis.

Fresh, clean sphagnum moss, write for
our low prices.
Pure Sphagnum Moss Co., City Point, Wis.

STAKES

BAMBOO STAKES, DOMESTIC
DIRECT FROM THE PRODUCER

PENCIL THICKNESS Per 1000

1 1/2 ft., green \$3.60

2 ft., green 4.80

3 ft., green 7.20

MEDIUM HEAVY, 1/2 to 3/4 in. 500 1000

1 1/2 ft., green or natural \$ 2.85 \$ 5.70

2 ft., green or natural 3.80 7.60

2 1/2 ft., green or natural 4.75 9.50

3 ft., green or natural 5.70 11.40

3 1/2 ft., green or natural 6.55 13.10

4 ft., green or natural 7.60 15.20

5 ft., green or natural 9.50 19.00

6 ft., green or natural 11.40 22.80

7 ft., green or natural 13.30 26.60

HEAVY Per 100 1/2 3/4 5/8 3/4 1

4 ft., green or natural \$2.88 \$3.44 \$ 4.24

5 ft., green or natural 3.60 4.30 5.30

6 ft., green or natural 4.32 5.16 6.36

7 ft., green or natural 5.04 6.02 7.42

8 ft., green or natural 5.76 6.88 8.48

9 ft., green or natural 6.48 7.74 9.64

10 ft., green or natural 7.20 8.60 10.60

12 ft., green or natural 8.64 10.32 12.72

Approx. average thickness at bottom end.

A. C. PATTERSON, CENTERTOWN, KY.

BAMBOO CANE STAKES

Dyed green, pencil thickness.

Packed 2000 per bale. Per 1000 Per bale

1 1/2 ft. \$ 3.50 \$ 6.00

2 ft. 4.50 8.00

2 1/2 ft. 5.50 10.00

3 ft. 7.00 13.00

3 1/2 ft. 8.50 16.00

4 ft. 9.50 18.00

5 ft. 12.50 24.00

6 ft., per bale of 500, \$10.00.

SPLIT BAMBOO, DYED GREEN

Per 1000 Per bale (\$5000)

12 ins. \$2.50 10.00

15 ins. 3.50 15.00

18 ins. 4.50 20.00

24 ins. 5.50 25.00

F.O.B. CHICAGO

Quantity discounts: 10 bales up, less 5 per

cent; 25 bales up, less 10 per cent.

ALEC HENDERSON, INC.

1305 W. Randolph St. Chicago 7, Ill.

NBS

NURSERY BAMBOO STAKES

These imported stakes are specially select-

ed for nursery use. All are bottom or butt

cuts for minimum taper, cut closely to a joint

to reduce splitting. These are the finest

quality available.

Per bale

4 ft., 1/2 to 3/4 in. dia., 500 per bale \$22.50

5 ft., 3/4 to 1 in. dia., 250 per bale 17.50

6 ft., 1/2 to 3/4 in. dia., 200 per bale 15.00

7 ft., 3/4 to 1 in. dia., 150 per bale 12.50

8 ft., 1/2 to 3/4 in. dia., 100 per bale 10.00

Less these generous quantity discounts:

5 bales up, less 10 per cent; 10 bales up,

less 15 per cent; 25 bales up, less 20 per

cent. Bales lots only.

F.O.B. New York. Immediate shipment.

Pencil thick bamboo stakes also available.

Write for prices.

McHUTCHISON & CO.

695 Grand Ave. Ridgefield, N. J.

Phone Whitney 3-2230

CYPRESS PLANT STAKES

50 Pieces to Bundle

1x1-in.—3 ft., pointed \$3.00 per bundle

1x1-in.—4 ft., pointed 3.50 per bundle

1x1-in.—5 ft., pointed 4.50 per bundle

1x1-in.—6 ft., pointed 5.50 per bundle

1x1-in.—7 ft., pointed 7.00 per bundle

1x1-in.—8 ft., pointed 8.50 per bundle

These are good, strong stakes and will give

long service. "A little better than seems

necessary."

WE SHIP SAME DAY!

YOHO & HOOKER

Youngstown, O.

CYPRESS PLANT STAKES

BUNDLED

1x1-in., 3 ft. 3c each

1x1-in., 4 ft. 4c each

1x1-in., 5 ft. 5c each

1x1-in., 6 ft. 6c each

1x1-in., 7 ft. 7c each

1x1-in., 8 ft. 8c each

These are good, strong stakes and will give

long service.

All priced F.O.B. Sumatra, Fla.

Sale Office

SNEADS LUMBER CO.

Sneads, Fla.

STAKES, GALVANIZED HARD STEEL

FOR GREENHOUSES AND NURSERIES.

BENCH WIRE, galvanized.

STAKE FASTENERS

Prices and samples sent on request.

SCHUPP SUPPLY CO., WILMETTE, ILL.

ABSTRACTS
OF RECENT RESEARCH

BENEFICIAL NEMATODE

A beneficial nematode that attacks insects may be of help in pest control, United States Department of Agriculture entomologists believe. As reported in *Agricultural Research*, volume 4, No. 10, this conclusion was reached after the bacterial disease carried by the nematode proved deadly to some 35 insect species, including the codling moth, corn-ear worm, boll weevil, pink bollworm, vegetable weevil, cabbage worm and white-fringed beetle.

The bacterium associated with the nematode kills the insects quickly. The nematode has high resistance to chemicals, making it compatible with insecticides and fungicide usage. It can live for months without host insects, and, so far, it has not been found harmful to plants, man or animals.

The nematode was discovered by S. R. Dutky inside bacterially diseased codling moth larvae sent to him by W. S. Hough, of the Virginia experiment station. The disease is primarily a bacterial septicemia (blood poisoning) carried by this specific nematode. The nematode acts as a microsyringe to introduce the bacterium into the body of the insect.

The infective stage of the nematode is the ensheathed second-stage larva. These larvae usually enter the host insect through the mouth, penetrate its intestinal wall and inject the bacteria. The host insect dies in about 24 hours. The ensheathed nematodes then feed on the bacteria, reproduce, emerge from the dead host and are ready to attack new insects.

The ensheathed larvae are quite resistant to DDT, endrin, lindane, methoxychlor and toxaphene. They were not killed when kept in 1:20 normal potassium hydroxide solution for an indefinite period, but were killed in 15 hours by 1:20 normal hydrochloric acid.

A method for mass propagation of the nematodes for field trials has been developed at the agricultural research center, Beltsville, Md. Wax-moth larvae, reared on a medium containing Pabulum, honey, glycerin and water, serve as hosts for propagating the nematodes. Over a billion infective nematode larvae were raised last year for field trials. In some of these tests, 60 to 70 per cent control of

DI-MET
Really KILLS
CRAB GRASS

Cash in on this fast-moving sales leader.

Available in liquid or powder, DI-MET selectively destroys Crab Grass, Dallisgrass, lemon grass, sedge without damage to turf.

Powerful advertisements in leading national magazines and garden sections of Sunday newspapers are pre-selling your customers on DI-MET. Cash in on the demand. Call your wholesaler or write manufacturer right away.

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Sales representatives:

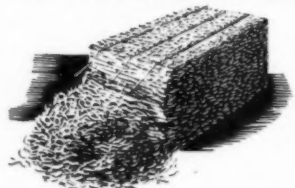
John H. Graham & Co., Inc.

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Wood Feathers

SCREENED
BALED RED CEDAR SHAVINGS



The Perfect Nursery Packing

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LOW DELIVERED PRICES—We Solicit Your Inquiries

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and increase your profits. Now is the time to start planning details. Write for complete catalog of equipment, supplies and instructions on "how to do it."

FLOC-FLO ENGINEERING DESIGN

5802 Olson Hwy. Minneapolis, Minn.

codling moth was obtained, and nearly the same control of corn-ear worm was achieved. These tests indicate that the nematode can fulfill in the field the promise shown in the laboratory. I.

OHIO SUGAR MAPLES

Selection and testing work at the Ohio agricultural experiment station at Wooster may point the way for more extensive work in the extension of ranges of some desirable woody plants.

Howard B. Kriebel, reporting in the May-June, 1956, issue of Ohio Agriculture, tells of hardiness tests with sugar maples grown from seeds collected in widely scattered areas. Those from the cool moist regions of the Appalachian mountains were much more susceptible to heat and drought injury than trees from Illinois where summers are hotter and drier.

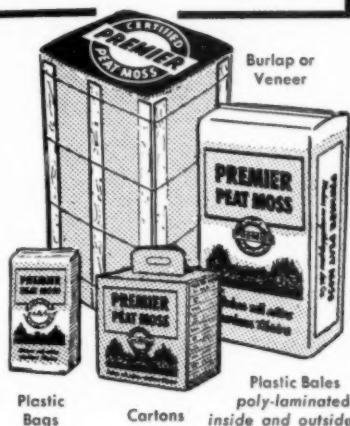
Even within the state of Ohio, marked differences were noted. Trees from the extreme northeastern corner of Ohio, where summers are cooler, had a lower survival percentage than trees from central and western Ohio.

In the station tests, trees from southern Illinois were the most drought hardy but developed poor form and were not desirable for timber. Trees from southwestern Ohio were nearly as hardy and had better form. Certainly a careful selection of seeds from the most unfavorable part of the range of the tree will tend to extend the range of the tree. Such an approach has been used on some ornamentals in connection with cold hardiness. Its use in connection with drought hardiness is apparently also worthwhile. C.

WHERRY'S NURSERIES, St. Mary's, W. Va., started a nursery at Newport, O., this past year, consisting of 25 acres devoted mostly to the growing of holly. The Wherrys recently completed a new ranch home on the St. Mary's property and have announced that the nursery is increasing its production of container stock.

DEDICATION and opening of a Japanese garden occupying about a quarter of an acre in Shoup park, Palo Alto, Calif., was held recently. Oriental plantings, including Japanese maples and flowering cherries, a bridge and other structures imported from Japan and a high split-bamboo fence are parts of the landscaping planned and carried out by Tom Furuichi, Los Altos Nursery.

IT PAYS to use and sell **PREMIER PEAT MOSS**



Plastic
Bags

Cartons

Burlap or
Veneer

Plastic Bales
poly-laminated
inside and outside

Premier Peat Moss is the biggest-selling brand because it gives nurseries and home gardeners the best soil conditioner in the best packages.

Premier is outstanding for soil improvement . . . mulching . . . transplanting . . . lining out . . . seedbeds and many other uses.

Display Premier's packages for every need — big bales — moisture-proof, rot-proof plastic bales — cartons and plastic bags.

You can order an assortment of any or all of these packages — Premier Peat Moss and Soil X-pediter — and get them all in the same shipment.

Get Premier's outstanding packaging assortment — backed by Premier's superior resources and service.

Also Premier European Peat Moss in 3 sizes burlap-wrapped bales

Write, wire or phone for prices

PREMIER PEAT MOSS CORP., 535 FIFTH AVE., NEW YORK 17, N. Y.

IT PAYS to use and sell **SOIL X-PEDITER**



2½, 5, 25, 50, 100 lbs.
in double plastic-burlap bags
and clear plastic bags.

Premier Soil X-pediter is the extra-fine sphagnum peat organic — pure, clean and non-gritty — free-flowing and easy-spreading.

Soil X-pediter blends uniformly and completely with the soil — stores more water, air and plant food — makes roots feed faster.

Display Soil X-pediter — in double plastic-burlap bags and clear plastic bags — all fast sellers at a high markup and established retail prices.

HUMIDOMIST CONTROL for INTERMITTENT MISTING

You will save 90 per cent of your water cost by converting your constant mist to operation for around 4 seconds per minute during daylight hours only. Especially important in rooting cuttings.



Type T-16 Misting Nozzle Twin discharge. Covers bench area 2 ft. wide by 10 to 15 ft. long. Price: \$2.00.

No. 3001 Day-Nite Clock	.....	\$12.50
No. 1-M Adjustable Interval Time, 1 Minute Cycle	.....	17.50
Electric Valve with Strainer	.....
5/8-in.	.....	\$20.50
3/4-in.	.....	44.80
1-in.	.....	\$28.50
1 1/2-in.	.....	59.50

Cord and plug connections save wiring expense. Prices F.O.B. Rochester. Add 2 per cent for postage.

Circulars on request.

SUPREME ELECTRIC PRODUCTS CO.

194 Vassar St.

ROCHESTER 7, N. Y.

LILACS FOR AMERICA, by Lilac Survey Committee. 30 species, 800 varieties. 48 p. \$1.00 postpaid. American Nurseryman, 343 S. Dearborn St., Chicago 4, Ill.

WANTED and FOR SALE ADS

Help and Situation Wanted and For Sale Advertisements.

Display: \$4.00 per inch, each insertion.

Lines: 35¢ line; minimum order **\$3.50**.

HELP WANTED

\$10,000 PER YEAR

PRODUCTION SUPERINTENDENT

This is truly an exceptional opportunity for the man who can qualify by his background of experience, education and leadership. Our management considers this a key position. The man we hire will enjoy exceptional opportunities.

To be considered, you should have a broad background in propagating and growing such nursery products as: Evergreens, shrubs, hedges, fruit trees, shade trees, flowering trees, etc. You should have experience in hiring, training and supervising employees from the rank of nursery worker to supervisor. You should have demonstrated ability to plan and direct large-scale and varied nursery operations. You will serve as right hand to management.

Please forward, in confidence, complete information regarding experience and educational background.

Every application will be carefully reviewed.

The man selected will step into a fine position with a large progressive and long-established firm. He will enjoy such company benefits as vacation, sick leave, insurance, pension, etc.

No application will be considered unless a complete personal data sheet is submitted and references who may be contacted. All replies kept in strict confidence.

Reply to Box 315, care of American Nurseryman.

HELP WANTED

EXPERIENCED PROPAGATOR

One of the largest nurseries in southern California offers profitable, permanent position to propagator with experience and ambition. Security, pleasant working conditions and an unlimited future for the right man. Many extra benefits. Salary open. Enclose recent photo with detailed letter of application. Write Box 310, care of American Nurseryman.

HELP WANTED

LANDSCAPE SALESMAN

We need a man qualified in design, drawing plans, etc., to call on our customers. Salary until established, then commission.

We have a good sales area, 400 acres of nursery stock, and have been in business over 100 years. If interested write direct, giving your past experiences and references of former employer.

HILLENMEYER NURSERIES
Lexington, Ky.

FOR SALE—37-acre evergreen nursery, landscape and retail trade. Includes equipment, modern home and other buildings. Located on the Alliance-Minerva road. Good reason for selling. Price **\$26,000**. G. M. MALONE, R. D. 2, Minerva, O.

HELP WANTED

EXPERIENCED LANDSCAPE CREW FOREMEN

Interest in doing high-quality landscape work for firm specializing in good design and unusual plant material important. Ability to handle plants according to best horticultural practices essential. Opportunity for advancement with growing business in metropolitan Wilmington. Apply in person, or by letter, to:

W. Earl Hamilton, Nursery Manager
MILLCREEK NURSERY
Rt. 3, Newark, Del.

HELP WANTED

General manager in charge of production for expanding southern nursery. Good facilities, pleasant working conditions. All replies kept strictly confidential. Our employees know of this ad. Write to Box 290, care of American Nurseryman.

HELP WANTED

Here is where employers and employees meet! If you are seeking competent help, place your proposition before interested parties by inserting an advertisement in this department. You can do this for only **\$4.00** per inch.

SITUATION WANTED

Couple with five years' experience desires employment in nursery, preferably where housing is included. Man has complete knowledge of all types of nursery work and wife is experienced in retail sales and greenhouse. Both in mid-thirties. Write to Box 313, care of American Nurseryman.

SITUATION WANTED

Young man with B. S. degree in ornamental horticulture, having extensive practical experience, desires a position with a progressive organization where he can show his ability. Has family; desires location in east. Write to Box 311, care of American Nurseryman.

SITUATION WANTED

Single man, 27 years old, with 4 years' experience in general nursery work in east, as planting foreman and salesman. Desires permanent position with landscape nursery. Able to read blueprints and make plans. Salesyard experience. For references, write Box 316, care of American Nurseryman.

WANTED TO BUY

Modern garden center and nursery. Must gross \$50,000 or upward. Replies held in strictest confidence. Address replies to Box 291, care of American Nurseryman.

FOR SALE

Used complete greenhouses. Used greenhouse materials, glass, pipe, valves, etc. Greenhouses bought for wrecking.

SEABOARD GENERAL SUPPLY CO.
1080 Magnolia Ave. Elizabeth, N. J.

FOR SALE

Small evergreen nursery, with a nice selection of ornamental evergreens, strawberries and raspberries. Located on Beasley Lake, one of the beautiful Chain o' Lakes. Includes one modern cottage with basement and fireplace, packing house, overhead irrigation system, all power tools and equipment. Good roadside market. Opportunity for younger people. Age is reason for selling. Will also include one more modern cottage and owners' residence with purchase of nursery if wanted. Priced to sell. If interested write:

BEASLEY LAKE NURSERY
AND COTTAGES
Rt. 1, Waupaca, Wis.

FOR SALE

Buyers for nurseries of all types in any part of the country are reached through an ad in this department, the trade's real-estate and business market. The cost of an ad this size is **\$6.00**.

FOR SALE

Nursery and florist's business. Continuous ownership for over thirty years. Large territory. No competition. Small acreage in growing town. Residence and necessary buildings. Priced right.

WHITE'S NURSERY & FLORIST
Meeker, Colo.

FOR SALE

Royer C-Jr-E soil shredder. Portable, electrically driven. Also 10 s-ft., plug-in, twin-tube, fluorescent fixtures and lights. Both half original price. Write or phone:

Mr. Snow
WINSLOW NURSERIES
Needham, Mass.

FOR SALE

5-acre nursery, landscaping perennials, garden shop, good house, garage with apartment above. Established 10 years in a fast-growing community. Good terms. Address replies to: Box 312, care of American Nurseryman.

FOR SALE

2½-acre nursery and salesyard ideal for couple. Perfect location to grow canned stock—free water supply. Only 10 miles to St. Louis market. 5-room house, truck, stock and tools, all for \$15,000.

UNION NURSERY CO.
Union, Mo.

FOR SALE—Pictures for packaged roses. Complete list of best selections. Would like to share with interested nurseryman on cost-plus basis. Write Box 314, care of American Nurseryman.

FOR SALE—3-acre perennial nursery, 2½ miles from New York city. Fully equipped and well-established trade. Good house, garage and outbuildings. Price: **\$40,000.00**. Write to Box 305, care of American Nurseryman.

FOR SALE—Used 30-lb. tins, \$50.00 per 1000 in cartload lots. F.O.B. Beulah, Mich. Car average 5000-tin capacity. Cans cleaned before loading. For freight rates see your local agent. Lids available at \$15.00 per 1000. Samples on request. PETRITZ FOODS, Beulah, Mich.

STAN SAYS

Spring Flowering Bulbs

Narcissi will thrive in wet ground, but tulips will not. It takes until July 1 for narcissus tops to ripen; tulip tops generally are ripe by June 15.

Darwin tulip General Eisenhower is an excellent new variety that came into bloom April 29, 1956. It is a cross between a Darwin tulip and Tulip fosteriana. It has a large flower and a strong stem that is not hurt by strong winds; when this tulip becomes more reasonably priced, I question whether many Red Emperor tulips will be sold. It must be said, though, that Red Emperor came into bloom 19 days ahead of Eisenhower.

Clara Butt, a salmon-pink Darwin tulip, was highly popular in 1920; I remember when the Elliott Nursery Co. sold 30,000 of this variety at retail. Pride of Zwanenburg and then Smiling Queen were supposed to be improvements on Clara Butt. I find that Smiling Queen is a beautiful tulip, but the bulb may be short-lived; so now we are told by good authority to plant the Darwin tulip, Queen of Bartignons. This next year we are trying White Duchess, instead of The Bride. (I am still planting Zwanenburg, a tall white tulip with black stamens.)

Thirty-five years ago when I first came to Pittsburgh a wealthy client told me to select the best tulips for him, and I did; Indian Chief was one of these. It was high-priced then (about \$12 per 100 when most tulips retailed for \$4 per 100). Today this tulip is still good. It has a sturdy stem despite its 34-inch height; the reddish mahogany blooms are not large, but they last a long time. This tulip is for better customers and for yourself.

Plant your tulips in the open garden, but arrange it so that shrubs will keep the hot afternoon sun off them, and their season will be prolonged.

Narcissus Mrs. R. O. Backhouse, the famous pink daffodil, is long-lived here in our heavy Pittsburgh soils. Pinch off only the top of the flower stem when the bloom fades. This applies to all narcissi.

Peony-flowered tulip Eros breaks quite easily in a storm. This is an excellent tulip, so I will continue to use it; even if the blooms are broken by a storm, they cannot be surpassed for decorations. They are almost



From spreading topsoil
to final raking....

You can do every lawn-building job from your tractor seat with a YORK RAKE

A YORK RAKE is the most versatile tool you can own. It does preliminary rough grading, clears off stones, roots and debris, spreads topsoil, mulches the soil and does the final raking before seeding—in a fraction of the time it takes a crew of men to do the work. A YORK RAKE pays for itself with the time and labor you save each time you use it!



Rakes stones, roots and debris



Reverses for bulldozing

Sturdy... efficient — easy to use

The YORK RAKE is built for rough service. Teeth are heavy-duty alloy spring steel, individually mounted on a spring steel head. The RAKE provides an ideal screening action because pulverized dirt passes between the teeth while stones and debris are carried along. Adjustments are so simple and easy to make that even an inexperienced operator can do completely satisfactory work. Model RE for all tractors with 3-point hitch; Model RF for Farmall Cub Tractors.

For literature and prices, write to Dept. AN-356



If you want the **BEST**
in tools... get **KUNDE**



No. 31A. Kunde standard budding knife. 3 1/2 and 4-in. handle.



No. 41H. Genuine bone handle with opener at end. 3 1/4-in. handle. Write for illustrated folder.

A. H. GUTBROD CO.

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RAPID-GRO
Makes More Money
For You **2 WAYS!**



1. Use it!
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RA-PID-GRO CORP.
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The Pioneer In Foliar Feeding

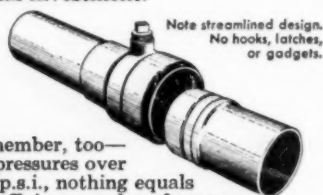
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McDowell Medium Pressure Couplings



Especially suitable for nursery irrigation!

Now—your McDowell dealer offers a new line of McDowell couplings, especially designed for economical operation at medium pressures. This new design, when used for working pressures of 50 p.s.i. to 100 p.s.i., provides all the superior advantages formerly found only in McDowell High Pressure Couplings. Further, they're low in cost, thus making possible considerable savings in your initial investment.



Note streamlined design.
No hooks, latches,
or gadgets.

Remember, too—
for pressures over
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the efficiency and performance
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Please send details on McDowell Coupling
Portable Sprinkler Irrigation.

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Address _____

McDOWELL MANUFACTURING CO.
Pittsburgh 9, Pa.

equal to the California tuberous-rooted begonias when used in flat containers.

With so many botanical tulips (species) to pick from, one is often at a loss which to select. I wish to recommend eichleri; it grows to a height of 15 inches; the flower is 3¾ inches long, with a black center and narrow, triangular buff markings on the outside of the petals.

ROOTSTOCK PROBLEMS

[Continued from page 13]

index host, a rosette type of growth usually accompanied the ring spot symptoms.

Viruslike Disorders

Reeves (13) observed symptoms of crinkle — apparently the same as those associated with the serious disease of this name affecting certain sweet cherry varieties — on Mazzard seedlings and suggested that the causal factor is carried in the seeds. Hewitt and Philp (10) found that crinkle develops in seedlings of hybrids when either the seeds or the pollen parent is affected.

In 1948, L. C. Cochran pointed out crinkle symptoms in seedlings of Mazzard growing in a nursery row at the Geneva station, and it was found that the seeds had come from a tree affected by crinkle (Fig. 3). A smaller percentage of the seedlings from a neighboring tree, which itself did not bear the symptoms, also had crinkle symptoms. Since these trees are open pollinated, presumably the crinkle factor was carried into the seeds of the second tree by pollen from the symptomatic neighbor.

The authors have observed well-developed crinkle symptoms on large Mazzard trees in Virginia in the area where seeds are harvested for rootstock production.

Plum Rootstock Difficulty

While crinkle in cherry stocks undoubtedly is important, the symptoms are reasonably distinct on trees of fruit-bearing age and therefore can be avoided if sufficient care is taken. More difficult is a disease of Myrobalan plum rootstock that is ruinous to the Stanley variety according to Brase and Parker (3). The nature of this trouble has not been clearly defined. While a leaf symptom, chlorotic fleck, (figure 4) may be associated with it, the meager information available indicates that the identification of affected seed source trees may not be feasible on the basis of symptoms. The chlorotic fleck symptoms seem to be well developed on the young seedling but disappear as the tree grows older. Hilde-

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brand (8) described this symptom on Myrobalan, presented evidence that the causal factor is carried in the seeds and reported that budlings grown on affected seedlings are reduced in growth. The authors (3) confirmed Hildebrand's conclusions and presented evidence that the rootstock is constricted (figure 5) and may be killed when the Stanley variety is grown on affected stock. At present no source of Myrobalan known with certainty to be free of this trouble is available. Some trees may be free of chlorotic fleck and one clonal selection is available that does not express the symptoms. Since the leaf symptoms are uncertain on older trees, one cannot be certain that this clone is free of chlorotic fleck until the clone is allowed to bear fruit and the seeds planted for study of the seedlings.

Clonal Rootstocks

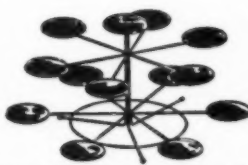
Particularly serious is the situation when clonal rootstocks carry a virus in a masked form and are used directly as rootstocks. When stocks are propagated vegetatively, once the mother plant is infected with a virus or if it carries one of the nontransmissible factors, all rooted cuttings or layers taken therefrom will be affected. Brooks and Hewitt (2) re-

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ported such an experience with the Stockton Morello, a clonal dwarfing stock for cherry. To hasten bearing and control tree size, seedling selections were propagated on this stock. Within four years, 162 of a total of 726 trees developed bark blister and leaf symptoms characteristic of a serious virus disease of sweet cherry. No symptoms of disease had been observed on the rootstock plants.

Discussion and Summary

It has been demonstrated that ring spot is commonly carried in the seeds of cherry harvested from affected trees and that a varying percentage of the seedlings will be affected. Strong evidence has been obtained that the cherry yellows virus is similarly transmitted through seeds. Evidence is presented that affected seedlings support a reduced growth of budlings of sour cherry propagated on them. Strangely, in the studies reported in this paper, most virus-infected buds likewise made better growth on healthy than on diseased seedlings. Methods for the determination of presence of these viruses are available, and it should be possible to produce healthy seeds for commercial use. This will be difficult, but should be feasible and undoubtedly will be rewarding.

The ring spot virus has been demonstrated in peach seeds. It should be taken into account in all production of stone fruit seedling rootstock.

The plum rootstock, Myrobalan, is beset by a serious injurious factor that reduces growth of budlings on affected seedlings, and such rootstocks sometimes may be killed when one particular variety, Stanley, is grown on them. The nature of this trouble has not been adequately defined and, consequently, no certain method for preventing the damage is available.

Clonal rootstocks possess many advantages, but extreme care in their use is needed. Usually when a seed tree is affected by a virus or viruslike disease, only a part of the seedling progeny will be affected. If a clone that is affected by an injurious factor is propagated vegetatively, all of the progeny also will carry the factor.

On the other hand, the seedling sometimes may be affected by injurious factors that are not carried from plant to plant except through the seeds, and such troubles can be avoided by the use of clones if care is exercised.

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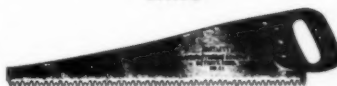
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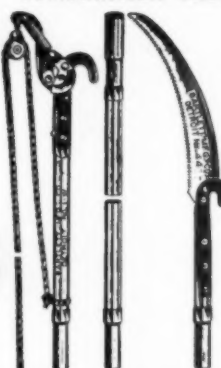
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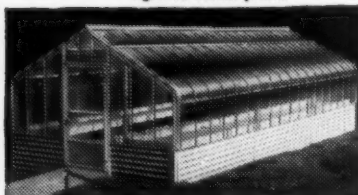
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LILY SOCIETY SHOW

More than 1,000 lilies were viewed by about 10,000 people at the ninth annual lily show of the North American Lily Society held at the Kingwood Center, Mansfield, O., July 6 to 8. The show was co-sponsored by Kingwood Center.

Claude L. Shride, Seattle, Wash., won the Kingwood Center sweepstakes cup by winning 10 blue ribbons and four red ribbons to amass a total of 62 points with lilies shipped more than 2,000 miles to be shown. Mr. Shride also won the M. E. Pierce cup with his entry of three native lilies.

The Isabella Preston cup, given for the first time this year, went to Jan de Graaff, Oregon Bulb Farms, Gresham, Ore., for his entry of Empress of China, an auratum-speciosum hybrid originated at the Oregon Bulb Farms. The cup, named in honor of the famed Canadian lily hybridizer, is given for the best spike in the show. The same entry also won the silver medal of the Massachusetts Horticultural Society for the best named interspecific hybrid entered.

Both the directors' cup and the D. G. Griffiths cup were awarded to James E. Bradfield, Barnesville, O., for his entry of a trumpet lily seedling, since it was judged the best white trumpet lily as well as the best unnamed seedling entered.

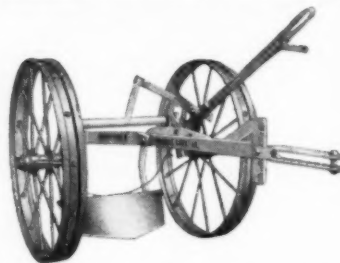
The Toronto Horticultural Society gave two medals to be awarded for the best spikes of lilies originated and named by a Canadian. The silver medal went to an entry by Dr. George L. Slate, of Geneva, N. Y., and the bronze medal was awarded to an entry of Dr. E. F. Palmer, Vineland, Ont.

Two certificates of commendation of the N. A. L. S. were given—one for the lily, Palomino, and one for the lily, Spice. The first award of merit of the N. A. L. S. went to the lily, Enchantment. All three of these lilies were originated and entered by the Oregon Bulb Farms.

Society Election

At the annual meeting of the society, held in conjunction with the show, the following officers were elected: President, Dr. L. H. MacDaniels, Ithaca, N. Y.; vice-president for the United States, Dr. Norma E. Pfeiffer, Yonkers, N. Y.; vice-president for Canada, Percy M. Byam, Toronto; secretary, Mrs. Wallace A.

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Directors appointed by the president are: Claude L. Shride, Seattle; Miss Frances Huntington, Grosse Pointe, Mich.; Dr. Palmer, and George O. Doak, Chapel Hill, N. C. Dr. Slate, editor of the Yearbook, was named registrar of lily names for 1956-1957.

METTERHOUSE APPOINTMENT

William W. Metterhouse, Belleville, N. J., has been appointed temporary supervisor of nursery inspection in the division of plant industry, New Jersey state department of agriculture. He succeeds William M. Boyd, Trenton, who recently was promoted to chief of the bureau of entomology.

A graduate of Ohio State University, Columbus, where he received a bachelor of science degree in biological sciences, Mr. Metterhouse had been on the department staff during four summers doing survey work. He also has taught general science and biology at two New Jersey high schools, and previously had been field supervisor of barberry eradication in Columbus, O., for the United States Department of Agriculture.

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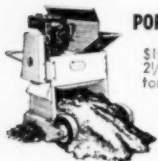
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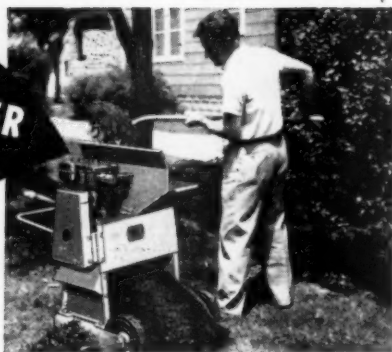


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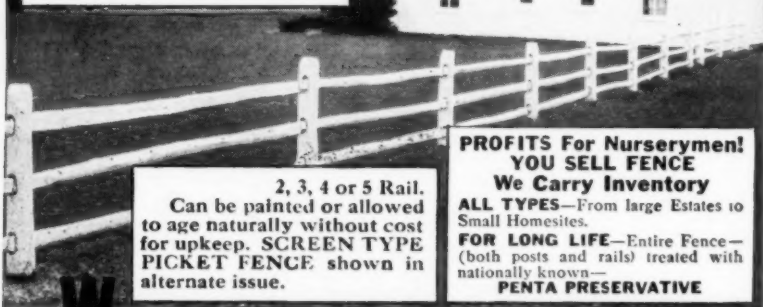
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OBITUARY

Harry S. Day

Harry S. Day, 85, owner of the Fremont Nursery, Fremont, O., one of the oldest nurseries in the state, died June 27. The business, which he had taken over on the death of his father, John Day, in 1910, had been founded in 1858 and had originally been a large supplier of fruit trees to orchards in the Lake Erie region. Later ornamentals were featured, especially rarer items, which included imported Moerheim blue spruce, imported Japanese maples, Magnolia soulangeana nigra and Viburnum carlesi.

Mr. Day, a native of Fremont and known as a sportsman, had a long career in politics which started in 1900. He had been a deputy postmaster at Fremont, and from 1918 to 1922 he served as mayor of Fremont. From 1923 to 1926 and from 1931 to 1936 he served three terms as state treasurer. In 1926 he was a Republican candidate for nomination as governor, but lost.

President of the Ohio State Nurserymen's Association in 1919, Mr. Day had been prominent in banking circles and active in a number of large mercantile firms. He was a member of several fraternal organizations. Surviving are the widow, Lola Garvin Day, and a daughter, Mary Elizabeth, at home.

Henry C. Balcom

Henry C. Balcom, owner of the Balcom Nursery, Jefferson road, Kokomo, Ind., died recently after three years' illness. He was 69. A resident of Kokomo since 1917, Mr. Balcom started a nursery there in 1921 and had been at the Jefferson road location since 1926.

A landscape architect, Mr. Balcom was the first student to receive a degree in landscape architecture and engineering from the University of Illinois. He was a member of the Indiana Nurserymen's Association. Surviving are the widow; a son, William Henry Balcom, and a daughter, Mrs. Thomas Frangos, all of Kokomo.

MERGING of the Dutcher Landscape Co., operated by Leonard Dutcher, and the Nassif Landscape Service, operated by Bernie Nassif, has been accomplished to form the Dutcher-Nassif Landscape Co., 922 42nd street, Des Moines, Ia.

BOOK REVIEWS

GARDENING SUPPLEMENT

The promised supplement to the Royal Horticultural Society's 4-volume "Dictionary of Gardening" has just been published by the Oxford University Press in England. The supplement, which was edited by Patrick M. Synge, who aided in the completion of the main set after the death of the editor, Fred J. Chittenden, is divided into two parts, the first containing separate listings of recommended flower, fruit and vegetable varieties and the second being composed of additions and corrections to the 4-volume work.

Originally planned as the first section of a 2-part supplement, this new 334-page volume, which sells at \$10, was to contain lists of recommended varieties of the principal kinds of cultivated plants. The second supplement was intended to be a collection of articles on improved methods of disease and pest control and revisions of genera, descriptions of newly introduced species and corrections of the earlier work. Inasmuch as corrections and the like are more extensive than was anticipated, the original plan was dropped in favor of the more practical scheme of revising and reissuing supplementary volumes from time to time as they are needed.

As in the main work, the variety listings are not intended to be complete. The best and most reliable available varieties have been selected for inclusion. The format follows that of the first four volumes, including the helpful system of cross references of common and botanical names. The supplement is a worthy addition to the major portion of the work and to every good horticultural library.

HANDBOOK ON SOILS

There is no scientific evidence to support the contention that elements in commercial fertilizers, made through the use of strong acids like sulphuric and nitric acids, are toxic to soil bacteria and earthworms or, as is sometimes claimed, that they even give rise to crops of inferior food value, says Prof. Emil Truog, of the University of Wisconsin, in the current issue of *Plants and Gardens*, publication of the Brooklyn Botanic Garden.

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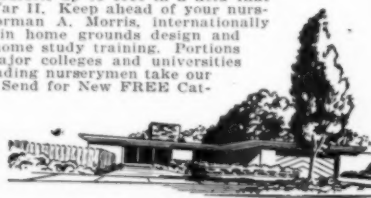
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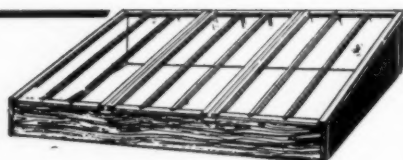
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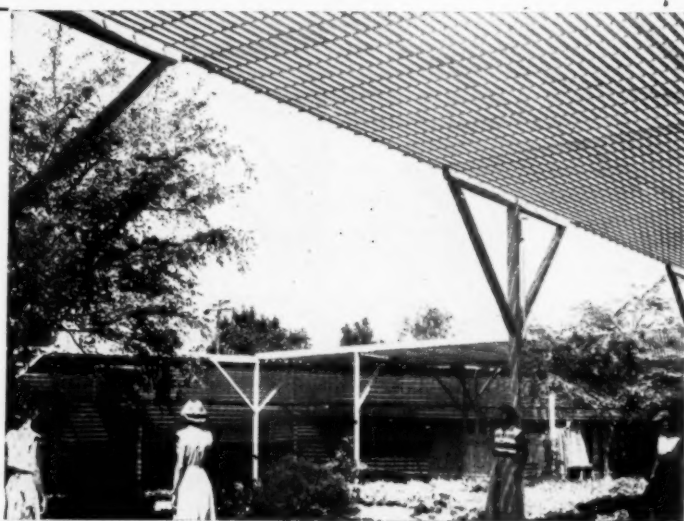


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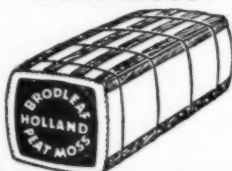
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Professor Truog recommends that home gardeners use compost or other organic matter to promote better physical condition of the soil and then supplement this with commercial fertilizer.

Many topics of vital interest are to be found in this 80-page "Handbook on Soils," the latest in the series published by the Brooklyn Botanic Garden. Soil experts at state experimental colleges, the United States Department of Agriculture and the Brooklyn Botanic Garden have contributed chapters covering all phases of soil management. There is a list of experiment stations of the United States and Canada offering soil-testing service, with information for each individual station on how to take soil samples, where to send soil for testing, fees charged if any, etc. The handbook has the latest information on soil conditioners, how and with what to fumigate certain soils and the use of the new slow-release fertilizers.

Illustrated with over 70 photographs and drawings, the handbook is available for \$1 from the Brooklyn Botanic Garden, Brooklyn 25, N. Y.

BONSAI—FOR TODAY

A book which may give enhanced appeal to the art of bonsai and bonkei for plant lovers, flower arrangers and hobbyists generally is the new volume, "The Art of Growing Miniature Trees, Plants and Landscapes," by Tatsuo Ishimoto. The author's aim, according to a foreword, is to indicate a simplified bonsai art, one that will give results in a year. In general, Mr. Ishimoto seeks to adapt this ancient Japanese skill to American ideas, tastes and patience—or lack of it. Earlier popular books by the same author have been on flower arrangement and the use of driftwood.

The first third of the present book, which consists of 143 pages, contains most of the introductory text on bonsai materials and planting techniques. The rest of the pages are given chiefly to depiction of individual creations, with notes on the special features of the plantings. Copiously illustrated with 200 repro-

ductions of photographs taken by the author, a professional photographer at San Francisco, Calif., the book is released by the Crown Publishers at \$2.95 a copy.

Little has so far been published in this country on the subject of bonsai, so that Mr. Ishimoto's book, with its American point of view and how-to-do-it approach, may find ready welcome. With its simplification of technique, the book should attract the beginner, while with its illustration of outstanding specimens in the traditional manner, it should persuade to continued efforts and appreciation.

FOYLE HANDBOOKS

Additions to a long list of titles included in the group of pocket-size books on crafts and hobbies known as Foyles' Handbooks, printed in Great Britain and released in this country by Dover Publications, Inc., include several specialized flower titles and a few revisions of the series' older works in the horticultural field. The books are similarly prepared, with plastic-finished, illustrated, stiff-paper covers, few exceeding 96 pages. Illustrations, both halftones and drawings, amplify the texts in most cases; many of the books have an index. All are priced at 65 cents each.

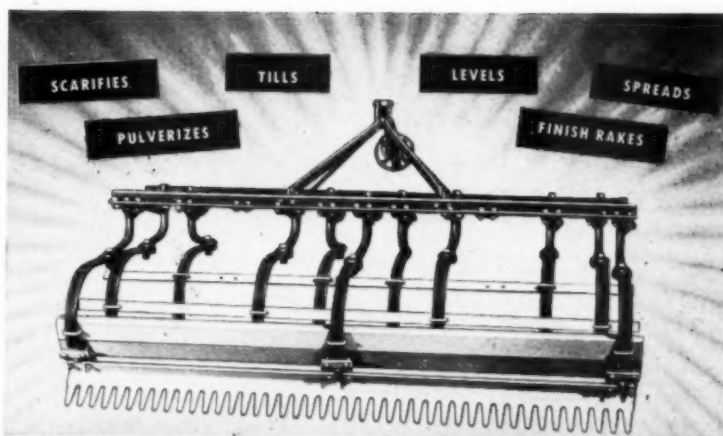
"Lilies and Their Cultivation," by M. E. Leeburn, 96 pages, carries a recommendation for the experienced as well as the novice lily grower. Four chapters are given to cultivation pointers, one each to hybridizing and pests and diseases and five to helpful descriptive notes on lilies from various regions of the world.

"Dahlia Growing," by T. R. H. Lebar, 70 pages, is also offered for the attention of the experienced grower as well as the beginner. Varieties discussed will not be familiar in this country, but cultural pointers may offer suggestions that are wanted.

"Geranium Growing," by H. G. Witham Fogg, 96 pages, provides an extensive coverage of the subject. Chapters cover historical facts, uses of the geranium, various classifications of geraniums and cultural problems.

"Chrysanthemums for Everyone," by Fred W. Loads, 86 pages, is directed to the beginner, with a dozen chapters that cover many cultural topics, give little comment on varieties.

"Garden Roses," by Stanley B. Whitehead, 96 pages, discusses every type of garden rose, offering notes on rose botany and classification,



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planning rose gardens, growing roses and propagating roses. Many lists of recommended varieties have names familiar here well scattered among them.

"Orchid Growing," by John W. Blowers, 94 pages, includes eight chapters. Topics are the orchid house, composts and potting, pests and diseases, four major orchid groups and a miscellaneous group. The book is designed to encourage orchid growing as a not too difficult hobby.

"Rock Gardening," by Roy Genders, 115 pages, tells about making a rock garden, locating it, selecting stone, planting and propagating of plants, plant likes and dislikes, maintenance and measures to prevent pests and diseases. This is a comprehensive and authoritative production.

"Indoor Plant Growing," by Stanley B. Whitehead, 94 pages, a revision, tells about the many plants that can be grown indoors, how to use them decoratively and how to cultivate them successfully. Various plant groups are given individual chapters.

"Cacti and Succulents," by Lawrence W. Cahill and Peter J. Panting, 102 pages, a revision, is a practical work said to be based on the experiences of the authors with their own collections. In the 15 chapters are comments on starting a collection and housing, identifying, arranging, propagating, cleaning and studying cacti.

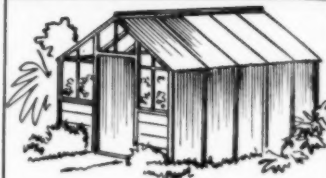
"Japanese and Miniature Gardens," by Leslie Woolard, 95 pages, a revision, is a condensed but comprehensive reference book on all types of miniature gardens, from egg-cup to window box size. Instructions are given on how to plan, build and plant these gardens, how to construct water features and ornamental structures and figures. Included are notes on plant dwarfing and lists of desirable plants.

1956 PESTICIDE HANDBOOK

The eighth edition of Pesticide Handbook, published by College Science Publishers for 1956, contains the names of 6,111 commercial pesticides, with information on their active ingredients, manufacturers and uses. The same style of presentation used in previous issues is repeated, with one major addition of material. The price is unchanged, \$1.25 in paper covers, \$3 clothbound.

For the first time, the handbook contains, in a section on compatibilities, hazards and tolerances of the common pesticides, the established tolerances under the Miller amend-

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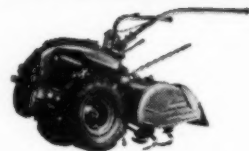
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ment to the food, drug and cosmetic act. While tolerances have not been established for all pesticides, those established up to February 1, 1956, are given, with the names of the crops covered and the date of their publication in "Summary of Tolerances and Exemptions for Residues of Pesticide Chemicals" issued by the food and drug administration, United States Department of Public Health, Education and Welfare.

SELF-SERVICE AT DANIELS

[Concluded from page 7]

The nursery is located on a service road of a major highway, U.S. No. 12. Though complete landscaping service is an important function of the nursery, Phill Swenson, merchandise manager, reports that the heavy dollar volume is drive-in business.

The nursery uses catalog, metropolitan newspaper, TV and direct-mail advertising. For the last-named effort an illustrated monthly newsletter, called Suburban Gardening, is used. The firm directs its advertising to the heavy suburban population that has grown up between metropolitan Minneapolis and suburban Long Lake, Minn.

Active Proprietor

Mr. Daniels has an enviable reputation as an authority in his field. Besides carrying on his own business, he has been active in the work of horticultural organizations, the Minnesota State Horticultural Society in particular, which he has served as president and in other capacities for a score of years. For 23 years he was part-time lecturer on horticultural subjects at the school of agriculture at the University of Minnesota. He has authored two practical books for amateur gardeners and persons interested in landscape work.

On the agenda for the development of the nursery is an arboretum where specimens of all shrubs and flowers native to the region will be represented in plantings. This project is aimed at meeting the educational needs of garden clubs, 4-H Clubs, school nature clubs, boy scouts and similar groups.

DUNWOODIE NURSERY, Yonkers, N. Y., has a side line in the manufacture of lawn furniture, bird-baths, birdhouses and other items made of concrete treated to resemble wood. The items are made by hand, without the use of molds, by two craftsmen who learned the art in Spain and are employed by Frank Armento, nursery proprietor.



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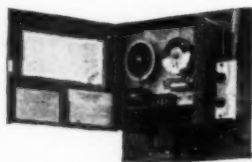
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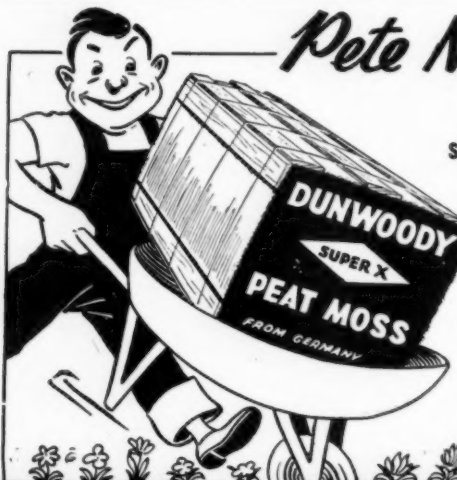
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ROSE-WAXING RESEARCH

A 2-year research program is now under way at Iowa State College, Ames, on the waxing of rosebushes for protection during storage, shipment and display. Funds for this work have been supplied by the National Wax Co., Chicago, and the work is being carried on under the supervision of Dr. John Mahlstedt, of the department of horticulture, Iowa State College. The program will include work to determine the protection value of wax coatings, better methods of application and wax improvements.

Rosebushes for this work were supplied through cooperation with Dr. Eldon W. Lyle, of the Texas Rose Research Foundation, from Consolidated Nurseries, Inc., Tyler; Harville Rose Service, Tyler, and Wilson Nurseries, Jacksonville, and also by purchase from other nurseries.

WEATHER AND DISEASE

How Connecticut growers are kept informed on probable spread of plant diseases from day to day during the growing season was described to members and guests of the Canadian Phytopathological Society by Dr. Paul E. Waggoner, head of the department of climatology at the Connecticut agricultural experiment station, at the society's annual banquet.

He cited three benefits to growers from the station's study of how weather affects the spread of plant diseases.

Accurate forecasts of plant disease spread prevent costly spraying when not needed and warn growers to spray when disease is imminent after they have stopped spraying during a long lull in the outbreak of a disease.

The study of weather and plant disease spread helps to determine whether the disease threat can be met by individual action of growers or whether area-wide control programs are needed.

Research on weather and plant diseases also helps to determine fungicide design; materials that act in water are required if infection occurs in water; materials that act as vapors are required if infection occurs under dry conditions.

Dr. Waggoner pointed out that spores of plant pathogens, which cause disease, are carried to plants by air in movement. Connecticut research draws on the studies of meteorologists as they seek to understand the diffusion of poisonous gases or wastes from atomic reactors,

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for example. With this information it is possible to predict the probable extent of disease spread even before experimental evidence is at hand.

Weather has an effect also on the number of plant pathogen spores produced, as does time of day. Many plant pathogens produce most of their spores in the morning. Therefore, their survival is favored by cool, moist daytime conditions.

Finally, there is good reason to suppose that the larger each part of the host that one spore can infect is, the larger will be disease losses.

With all available records, careful application of these working theories and knowledge as to how plant diseases spread, the Connecticut forecasts are made to help growers avoid paying twice for disease—once in the cost of unnecessary sprays and once in the cost of disease losses.

MORAINE LOCUST LICENSE

The Siebenthaler Co., Dayton, O., has announced an expansion in marketing plans of the Moraine locust shade tree. Heretofore licensed for propagation by Siebenthaler's in the United States and Europe, the tree will now be grown in Canada by Brookdale-Kingsway Nurseries, Ltd., Bowmanville, Ont.

The Canadian concern became licensed propagators in Canada by authorization of the Canadian trade marks office, approving an agreement between Brookdale-Kingsway, Ltd., and the Siebenthaler Co., owner of the trade-mark, "Moraine." Brookdale-Kingsway, Ltd., is designated as the registered user of the trade-mark name "Moraine" in Canada under the Canadian registration number N.S. 190-48418.

SMALL TREES

[Continued from page 11]

The last member of this group is the Carolina silver bell, *Halesia carolina*, which is probably the best known. It was introduced into cultivation as long ago as the middle of the 18th century, 100 years before the little epaulette-tree. There are only five species, all told, but rarely more than two are grown, and none extensively. *H. carolina* has a few botanical varieties, none of which seem to be grown commercially.

The white bell-like flowers as seen in illustration D are usually abundant during mid-May. As they mature, there is a pink tinge that appears, causing some people to think that they have discovered a new variety. The flowers do not persist for much



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GREENHOUSE HEATING AND CONSTRUCTION, by Harold E. Gray.
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more than a week or 10 days. The fruits that develop are tan, single, hard oval seeds about an inch or so in length, usually having four wings. They hang on the plant all winter and usually carry through the next year's flowering period.

It is a loose, open, small tree that might, in some cases, be considered a rather sparse-appearing shrub. It can reach a height of 25 feet or so, but its spread may be almost as great. Its spread does not make it suitable for shrub borders, and it should be used more as an individual plant. Tree forms can be made by regular pruning, but it is more natural for the plant to grow with several stems, as may be viewed in illustration E. The bark has a definite striping, too, similar to the two epaulette-trees.

Other Silver Bells

The other two species are the mountain silver bell, *Halesia monticola*, which attains a height of 80 or more feet, and the 2-wing silver bell, *Halesia diptera*, that generally reaches a height of no more than 25 or 30 feet. The mountain type is probably not so adaptable to landscape plantings as the second one, because of its extreme height and because of the pruning problem if it is used as a street tree.

The flowers of the 2-wing silver bell are a purer white than the Carolina, and it seems to be more easily trained as a tree. It is not nearly so well known. The leaves are shorter and rounder in appearance than those of its Carolina relative, but the branch markings are similar. The fruits have two wings instead of four, hence its common name, and they are about as persistent as those of other silver bells.

All the silver bells mentioned are indigenous to this country and come from such states as West Virginia, North and South Carolina, Tennessee, Florida and Texas. How much value they have depends upon how interested a horticulturally minded public becomes.

By happenstance, all the plants described are members of the same family, *styracaceae*. If it became necessary to evaluate these trees, I should place the Japanese snowbell at the top of the list, because of its being better adapted to a greater variety of landscape conditions. It has a definite place and should be used more liberally than it has been. The others have their rightful places, too, for as this article began so we end it and remind you that every tree or shrub is fitted for a place in the landscape, and, of course, each has its limitations.

NEW BULLETINS

STOCK PACKAGING TEST

Research report No. 4 of the Ontario, Canada, department of lands and forests, titled "Moisture Retaining Materials for Nursery Stock Packaging," describes an experiment conducted in 1955 which compared sphagnum, locally collected moss, poplar excelsior and poplar excelsior treated with a wetting agent as the moisture-retaining materials in bales of nursery stock. R. E. Mullin is the author.

Bales for the test were constructed in the usual manner with a waxed paper liner and a burlap wrap. Thirty-six bales of each material were packed. The bales were then stored under conditions simulating freight car, shed or covered transport. Trees from each bale were planted in an experimental plan of eight replications with nine times of planting at half-week intervals. The last bales had been stored four and one-half weeks at the time of planting.

The experiment showed that the materials caused no significant differences in mortality at the end of the first growing season. It also showed there was an increasing loss of stock with storage and that this was not a linear relationship. There were no significant differences within bales, in terms of mortality, whereas differences between bales reached significance at better than the 1 per cent level.

LOUISIANA BOOKLETS

Four bulletins, Nos. 372, 489, 451 and 501, published by Louisiana State University agricultural experiment station and written by W. D. Kimbrough and R. H. Hanchey, respectively treat of gladioli in south Louisiana, hibiscus for the yard, roses for the yard and African violets for the home.

W. F. Wilson collaborated with the other authors in preparation of the bulletin on studies of gladioli. Work reported in the paper was conducted largely for the benefit of the home gardener, but the general information given should be of interest to all gladioli growers in the lower south. The bulletin describing propagation and care of hibiscus is based upon work done at the station with some 100 varieties, and a list of desirable varieties is included.

On the subject of roses, the authors say that little experimental informa-

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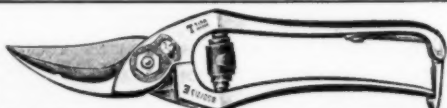
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tion concerning the culture of roses in the Louisiana area has been available. The station began work with roses in January, 1949, and the bulletin is in part a progress report of experiments with hybrid teas and hybrid perpetuals, polyanthas, floribundas, grandifloras and others. For the home gardener there is advice on grade of plants to buy, planting and care.

The bulletin on African violets discusses the culture of the plants for the home rather than for the greenhouse. A list of varieties that have grown well in the experiment station greenhouses is given.

TREE PEST LEAFLETS

"Cankerworms," "Tent Caterpillars" and "Gypsy Moth" are the titles, respectively, of leaflets No. 8, 9 and 10 of a series on forest tree insects and diseases that is being distributed free by the tree pest information service, State University of New York college of forestry in Syracuse, N. Y. Data for all three of the leaflets were compiled by Dr. Howard C. Miller, in cooperation with Prof. Aubrey H. MacAndrews, chairman, department of forest entomology. Developed in similar style, the 4-page leaflets show drawings of the pests, male and female, in the moth and larva stages on the cover, give brief notes on the life cycle of the pests and provide control suggestions.

ARKANSAS CONVENTION

[Continued from page 9]

state plant board and at the same time strengthen the nurseryman's position.

Sales Technique

L. H. Burton, extension horticulturist, University of Arkansas, used blackboard illustrations to show how to create a second sale by selling beauty and good landscaping design during the first sale. Mass planting was stressed in opposition to the salt-and-pepper plantings often employed. The use of group planting can sometimes bring about a sale of 100 to 1,000 ground cover plants rather than of just one or two bushes. Beautiful spaces, whether of concrete, wood, water or lawn grass, often help to create situations for additional shrubs and plants.

In the absence of Alvin Dickerson, Steve Verhalen, Scottsville, Tex., gave an impromptu talk on "Nursery Sales." He discussed such factors as background; color (4-season beauty); mass display (special items or stock);

orderliness; stock arrangements, and parking. Every nurseryman received some new ideas on how to improve salesyard efficiency.

Curtis H. Potterfield, secretary of the A. A. N., going to Little Rock from Los Angeles, Calif., where he attended the A. A. N. convention, told how, through exchange of ideas and know-how, many nurserymen had doubled or tripled their income in the past five years. Mr. Potterfield also discussed present laws and the necessity of keeping records. His theme was that a nurseryman's potential is limited only by his lack of imagination.

The election of officers, as already given, took place at this time, and the following committees were named: Nominating—E. H. Ballard, Piggott; Bob White; Roy Stevenson, Hope, and H. M. Miller, Eldorado; membership—L. H. McCoy and Lee Jacobs, both of Rogers, and program—Thad W. Nicol; F. A. Stringer, Pine Bluff; Walter Vestal, Jr., North Little Rock, and H. H. Heitman, Little Rock.

TED L. TETIRICK RETIRES

Ted L. Tetirick, a past president of the Oklahoma State Nurserymen's Association and a member of its present board of directors, plans to retire from active business. The Tetirick Nursery, Ponca City, Okla., founded 10 years ago by Mr. Tetirick and his nephew, Blake C. Tetirick, has been sold.

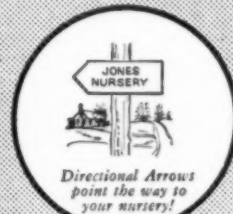
Mr. Tetirick grew up in the nursery business, although he was in the newspaper business for 35 years before establishing the Ponca City nursery, which included one of the first garden center stores opened in Oklahoma. Blake C. Tetirick is the son of J. W. Tetirick, operator of the C. V. Nurseries, Blackwell, Okla., and has been active as a landscape architect in Oklahoma and Kansas. He plans to move to the state of Washington, where he will continue in the landscape business.

LA RUE H. THOMPSON, Williamsport, Pa., who has been growing flowers for retail sales for about 16 years, is establishing a garden center to sell shrubs and other nursery stock.

ALFRED S. GOLDENBERG, nurseryman and landscape contractor, East Meadow, L. I., N. Y., and a first lieutenant in the U. S. Army Reserves, was committee instructor of a reserve officers' unit which recently underwent two weeks' summer training at Fort Dix, N. J.

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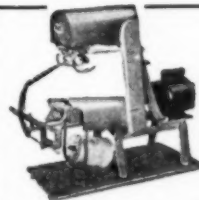
PROPAGATION OF PLANTS, by Kains and McQuesten. Nursery and greenhouse reference. 637 pages, \$5.00. American Nurseryman, Chicago 4, Ill.

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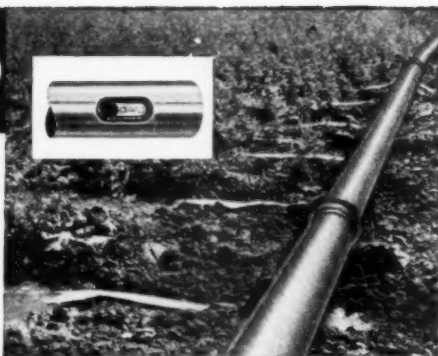
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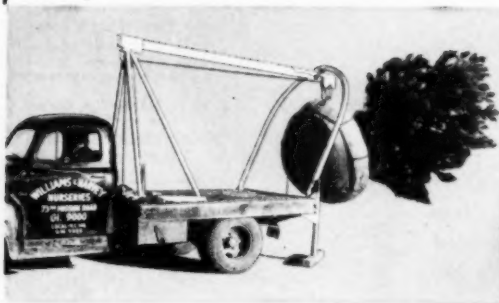
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CHAFER CONTROL

DDT, dieldrin and chlordane have all proved effective in checking injury to lawns by grubs of the European chaffer, according to Dr. Foster L. Gambrell, Cornell entomologist at the experiment station at Geneva, N. Y.

The most effective control of the pest is to treat the soil to kill the young grubs. These young grubs first appear in early July. They reach maturity about mid-May of the following year when they transform into the pupal stage. The adult beetles begin emerging the first two weeks in June, depending on soil type, soil temperature and seasonal conditions. But attempts to control the adult beetles have not proved nearly so effective as measures aimed at the grubs.

The insecticides can be applied to the soil as dry diluted dust or mixed with topsoil or sand or with fertilizer. Or wettable powders and emulsions may be applied with hand or power sprayers or even with a sprinkling can.

Treated areas should be wetted down well after treatment to carry the insecticides down to the grass roots where the grubs feed.

Mixed with the top three inches of soil, DDT will protect a lawn against chaffer grubs for three to five years, says the station scientist. Chlordane and dieldrin are equally effective and have the added advantage of controlling other species of grubs which may be present. Chlordane, however, may not last so long in the soil as does DDT.

SCARES BIRDS

Latest of a number of bird-scarers from Europe is a mechanical hawk invented by the Horticultural Engineering Institute, Wageningen, the Netherlands. The device consists of a rotating 18-foot crossbeam mounted at the top of a 50-foot tower and powered by an electric motor with reduction gears. The

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imitation hawk, fashioned of wood and metal, is attached to the swinging arm by a nylon cord. As the beam rotates, the hawk circles around at a radius of 100 feet.

Estimates indicate that 25 per cent of all small fruits in England are destroyed by birds. H. W. D.

RUTGERS ADDITION

Construction was begun recently of an addition to the horticulture building at Rutgers University, college of agriculture, New Brunswick, N. J. The annex will more than double the laboratory, classroom and office space of the present building. New greenhouses and a parking lot are included in contracts amounting to \$1,039,059.

LITTLE GREEN GARDENS, nursery at Mobile, Ala., is being sold. N. L. Littlegreen, owner and operator, died May 4.

STARTING in the nursery business with seven acres on Route 2, Quincy, Mich., Paul R. and Myrtle Sundstrom have established Sundstrom's Garden Center. The Sundstroms formerly were located at Allen, Mich., growing and selling perennials.

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